# BUILDING THE BRIDGE BETWEEN ANTI-DOPING PERCEPTION AND ACTION

ANTI-DOPING ARUBA

## A QUALITATIVE STUDY ON THE PERCEIVED EFFECTIVENESS OF ANTI-DOPING EDUCATION, RESEARCH, AND COMPLIANCE IN ARUBA

ORGANIZATION, GOVERNANCE, AND MANAGEMENT

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# Building the Bridge Between Anti-Doping Perception and Action

## A Qualitative Study on the Perceived Effectiveness of Anti-Doping Education, Research, and Compliance in Aruba

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**Abstract**

This study examines the effectiveness of Aruba's anti-doping initiatives in the areas of education, research, and compliance, as perceived by athletes, athlete support personnel (ASPs), and sport organization representatives. A qualitative research approach was adopted, using semi-structured interviews to explore stakeholder perceptions within the context of international anti-doping frameworks. The findings indicate that, Aruba's anti-doping system is largely aligned with international guidelines, however, its effectiveness is constrained by implementation challenges. Education was perceived as the most developed area, although it is often unevenly delivered and not always tailored to different target groups. Compliance mechanisms were found to be present but inconsistently monitored and enforced, while research was consistently identified as the weakest area due to the absence of locally driven data. Key challenges across all stakeholder groups included limited resources, weak coordination between organizations, and insufficient outreach beyond elite sport. The study concludes that improving effectiveness requires a stronger focus on implementation capacity, stakeholder coordination, early education, and the development of locally relevant research and education initiatives.

**Key Concepts:** WADA Code, Compliance, Education, Research, Anti-Doping Programs and Policies, Anti-Doping Awareness, Barriers to Anti-Doping, Accountability Measures, Consequences of Doping, Doping Prevention.

Glossary

| | |
|---|---|
| **ADAMS** | The Anti-Doping Administration and Management System is a Web-based database management tool for data entry, storage, sharing, and reporting designed to assist stakeholders and WADA in their anti-doping operations in conjunction with data protection legislation (WADA, pp. 164, 2021). |
| **Anti-Doping Activities** | Anti-doping Education and information, test distribution planning, maintenance of a Registered Testing Pool, managing Athlete Biological Passports, conducting Testing, organizing analysis of Samples, gathering of intelligence and conduct of investigations, processing of TUE applications, Results Management, monitoring and enforcing compliance with any Consequences imposed, and all other activities related to anti-doping to be carried out by or on behalf of an Anti-Doping Organization, as set out in the Code and/or the International Standards (WADA, pp. 165, 2021). |
| **Anti-Doping Organization** | WADA or a Signatory that is responsible for adopting rules for initiating, implementing or enforcing any part of the Doping Control process (WADA, pp. 165, 2021). |
| **Athlete** | Any Person who competes in sport at the international level (as defined by each International Federation) or the national level (as defined by each National Anti-Doping Organization). Also defined as any Person who participates in sport under the authority of any Signatory, government, or other sports organization accepting the Code (WADA, pp. 165 & 166, 2021). |
| **Athlete Support Personnel (ASP)** | Any coach, trainer, manager, agent, team staff, official, medical, paramedical personnel, parent or any other Person working with, treating or assisting an Athlete participating in or preparing for sports Competition (WADA, pp. 166, 2021). |

| | |
|---|---|
| **Code Compliance Questionnaire (CCQ)** | An intensive assessment tool consisting of roughly 200 questions that measures compliance in alignment with the most recent versions of WADA's seven international standards, policies, and testing protocols. |
| **Doping (in sports)** | Defined as the occurrence of one or more anti-doping rule violations under Articles 2.1–2.11 of the World Anti-Doping Code, including (but not limited to) the presence or use of prohibited substances or methods, evading or refusing sample collection, whereabouts failures, tampering with doping control, possession or trafficking of prohibited substances, administration of banned substances, complicity, prohibited association, and retaliation against whistleblowers (WADA, 2021). |
| **National Anti-Doping Organization (NADO)** | National Anti-Doping Organizations (NADOs) are organizations that are appointed by their nation's government to serve as the main national authority for anti-doping initiatives (WADA, 2021). |
| **Signatories** | Those entities accepting the Code and agreeing to implement the Anti-Doping Code (WADA, pp. 176, 2021) |
| **Spirit of Sport** | The ethical pursuit for human greatness via the development of natural talents, which highlights values including health, fair play, honesty, respect, teamwork, courage, and the joy found in sport (WADA, 2021). |
| **Sports Organization** | Organizations that mostly engage in cooperation with private or public entities in regards to sports, which are usually funded by the government through subsidies or other financial sources (Ruihley et al., 2021). For example, National Sports Federations, Sports Medical |

| | |
|---|---|
| | Centers, Olympic Committees, Public Sports Departments, and Anti-doping Organizations. |
| **Strict Liability** | Principle under the World Anti-Doping Code whereby athletes, and in certain cases, ASPs and sport organizations are responsible for any prohibited substance found in athletes' system, regardless of intent or negligence (WADA, pp. 176, 2021). |
| **The Code** | The fundamental and universal document upon which the World Anti-Doping Program in sport is based (WADA, pp. 9, 2021). |
| **Therapeutic Use Exemption (TUE)** | A Therapeutic Use Exemption allows an Athlete with a medical condition to use a Prohibited Substance or Prohibited Method under certain conditions and requirements (WADA, pp. 177, 2021). |
| **WADA** | The World Anti-Doping Agency |

# 1. Introduction

Discipline, dedication, and trust are some of the most important foundations of every athlete's journey. However, these values may be tested whenever doping threatens the integrity and fairness of sport. As the international and local sports community become more dedicated to clean competition, anti-doping has developed into a more complex system that goes beyond drug testing alone. It includes research, monitoring, education, athlete support, and the creation of organizational structures that can maintain international anti-doping standards. By analyzing the island's anti-doping programs using both desk research and interviews on stakeholder perceptions, this thesis investigates how these elements manifest in Aruba's sports environment. Implementing anti-doping policies presents unique opportunities and challenges because Aruba operates in a localized setting, where sports organizations frequently rely on shared responsibilities, voluntary initiatives, and deal with limited personnel on a constant basis. To evaluate these initiatives' effectiveness and pinpoint areas for future improvement, it is crucial to comprehend how they operate in reality and how they conform to regional and international standards. This research thus evaluates the effectiveness of Aruba’s anti-doping initiatives through desk research and sports stakeholder perceptions on anti-doping education, research, compliance, and monitoring within sports organizations. It also examines Aruba’s compliance with international and regional anti-doping standards, emphasizing institutional responsibilities & gaps, and contributing to future development plans for anti-doping initiatives.

## 1.1 Problem statement

Aruba has formally adopted the World Anti-Doping Code and its associated international standards as a part of its commitment to clean sport. These frameworks require national sport organizations to implement anti-doping initiatives related to education,

research, and compliance in order to promote clean sport and ensure alignment with international regulations. However, there is limited reported insight into how effectively Aruba's anti-doping initiatives are implemented in practice, particularly from the perspective of sports stakeholders responsible for implementing or experiencing these initiatives. Without understanding stakeholder perceptions, it becomes difficult to assess whether anti-doping policies are effectively translated into practice and whether existing initiatives adequately support awareness, education, research development, and regulatory compliance within the Aruban sporting environment.

To provide significant context, Aruba's small sport system presents a number of structural and resource-related barriers that affect how these programs are carried out. These difficulties include a lack of funding and technology, a shortage of personnel, and a lack of proper infrastructure for carrying out research projects, anti-doping education initiatives, and monitoring procedures. While these contribute to the main issue of determining initiative effectiveness, there may be other factors that are not so obvious, which may negatively impact the effectiveness of Aruba's anti-doping initiatives.

### 1.2 Motivation/Relevance

By focusing on safeguarding athlete health, promoting sports integrity, and enhancing the role of accountability among stakeholders through the improvement of education and compliance initiatives, this study directly contributes to the improvement of governance in sports organizations in regards to anti-doping. Meanwhile, it tackles a specific governance issue in Aruba's sports system: the perceived gap between official anti-doping regulations and their actual implementation, awareness, and accountability. It is important for policymakers, government, and sport organizations because poor initiative execution could jeopardize international compliance, institutional credibility, and funding for sport

development. Additionally, unclear roles and low levels of education hinder the effectiveness of governance and athlete protection. This study therefore identifies areas where governance and education responsibilities can be enhanced by examining stakeholder perspectives.

Also, this research aligns with the core FAS values of Identity, Sustainability, and Civic participation by promoting fair play, supporting long-term athlete health, and encouraging youth engagement and education on doping prevention, all of which are integral to fostering an active sports culture in Aruba. The value of 'Identity' is mentioned because this research analyzes how Aruba's sports environment ties into preserving the nation's clean sporting image and cultural pride through fair play. 'Civic participation' manifests itself in this research as the active and coordinated involvement of sport stakeholders in anti-doping governance and policy implementation, which includes promoting accountability and integrity within the sport community, as well as the well-being of the sport community in Aruba. Notably, this study directly addresses the United Nations' SDG 3 through the promotion of athlete health and wellbeing, SDG 4 through the focus on education on anti-doping, and SDG 16 through the study's goal of building effective and accountable institutions (Anti-doping initiatives in this case). These are the goals of "Good Health and Well-being", "Quality Education", and "Peace, Justice, and Strong Institutions" (*THE 17 GOALS | Sustainable Development*, 2015).

### 1.3 Research Objectives

The research aims to examine the current state and perceived effectiveness of Aruba's anti-doping initiatives by analyzing how relevant sports institutions and stakeholders view their implementation. The study seeks to explore potential gaps or inconsistencies in the areas of education, research, and compliance, while considering international benchmarks and governance practices as guides. Additionally, the research aims to examine the role of

institutions in educating and engaging youth on issues related to doping in sport. The study also aims to explore participant perspectives on initiative effectiveness to ultimately provide relevant recommendations and insight to improve anti-doping initiatives.

### 1.4 Research Questions

The main research question guiding this study is as follows: “How effective are Aruba's Anti-Doping initiatives in terms of education, research, and compliance as perceived by sports stakeholders?”. To answer the main research question and deepen the research, four sub-questions were formulated and are as follows:

SQ1: “What are the current anti-doping education, research, and compliance initiatives implemented in Aruba?”

SQ2: “How do sports stakeholders perceive the effectiveness of Aruba’s anti-doping education, research, and compliance initiatives?”

SQ3: "What challenges hinder anti-doping education, research, and compliance initiatives in Aruba, according to sports stakeholders?"

SQ4: “What strategies can be recommended to improve education, research, and compliance initiatives according to sports stakeholders?”

### 1.5 Research Methods

The research design used for this paper was a qualitative research design in the form of a case study. The sampling used in this study was a purposive sampling, in the form of a non-probability sampling. This was to gain detailed information of the current implementation and challenges of Aruba’s anti-doping initiatives. The sampling size consisted of six athletes, four athlete support personnel, and six sport organization representatives. Data Collection was performed through a total of twelve (Subject to change)

semi-structured interviews. The interviews were recorded and transcribed, and when deemed necessary, translated to help facilitate the data analysis and to increase their quality. Data analysis was conducted in the form of a thematic analysis and was manually coded afterwards.

### 1.6 Report Guide

This thesis is structured into five chapters and a conclusion. The first chapter gives an introduction to the research. It then gives the problem statement, research objectives, the research questions, and the methods used. The paper then continues with the second chapter by providing the general, local, regional, and international context of the research. The third chapter consists of a literature review which will help guide this paper using theoretical information with information from international and local reports while helping shape the conceptual framework used in this paper. The fourth chapter will provide a description of the methodology used for this research, including the research design, sampling used in the study, data collection methods, and data analysis. The fifth chapter will provide an overview of the results of the research. The sixth chapter will discuss the research findings in connection to the literature. The final chapter will provide an answer to the main research question and a conclusion to the research, while also providing an overview of the strengths and limitations of the research elements.

# 2. Context

## 2.1 Doping in Sports

WADA and its collaborating national anti-doping organizations (NADOs) recognize that the consequences of doping in sports can be present in various areas such as health, ethics, as well as the financial, legal, and social areas, whether they result in ADRVs or not. ADRVs are anti-doping rule violations, which are a result of athletes or athlete support personnel (ASPs) violating anti-doping rules. Outside of doping behavior that could not be accounted for, ADOs gathered 271,775 athlete doping test samples in 2023, which were examined by laboratories accredited by WADA and published in ADAMS, according to WADA's latest report containing statistics on ADRVs (World Anti-Doping Agency, 2025). This led to 71% of these samples being categorized as ADRVs and thus resulted in 1,654 sanctions.

Several substances are associated with increased cardiovascular disease risk and mortality, with some effects being irreversible (Fallahi, 2016). To put it in perspective, PEDs are often used to enhance mood, confidence, focus, pain tolerance, alertness, and reaction time; however, these perceived benefits are accompanied by substantial health risks. Pesta et al. (2013) emphasized that athletes who use performance-enhancing drugs (PEDs) must be aware of the adverse effects and potential interactions, particularly when multiple substances are consumed simultaneously. While the use of a single PED already increases health risks and the likelihood of sanctions under national anti-doping regulations, athletes who prioritize performance at an unhealthy level may resort to combining substances, thereby accelerating and intensifying harmful effects. To add to this, Honour (2016) highlights consequences such as cardiac hypertrophy, myocardial ischemia, thrombosis, peripheral edema, infertility, virilization, tendon injuries, and impaired liver and kidney function. Moreover, PED use has

been linked to hormonal imbalances, psychological disorders, and long-term biological risks (Pesta et al., 2013; Berger, 2024). Emerging practices such as genetic doping further raise concerns, as they involve non-therapeutic manipulation of genetic material to enhance physical performance, potentially introducing unknown and long-term health consequences (Fallahi et al., 2016).

An example of an ethical and social consequence would be a study on 2000 U.S adults that explores their perceptions of doping in sports. It was revealed that around 60% of the adults were in favor of an "immediate one-year suspension of all athletes caught doping," while 74% of the respondents wanted more frequent drug testing. Half of the adults also expressed doubt on certain players' clean doping profile, as well as perceived offense towards doping in sports.

As for financial and legal consequences, when an athlete who plays a team sport is proven to have committed an ADRV, the team as a whole is often affected (Kitsoft, n.d.). This has long term effects for future sponsorship and financial security for the athletes and organizations. For instance, after an incident at the Tour de France, evidence suggested that after a doping incident is exposed, sponsors are less likely to support an event and live broadcasters are less inclined to cover it (Buechel et al., as cited by Cisyk, 2015). This means there is less money invested and circulating in the event. An example of this would be the Lance Armstrong case at the Tour de France, where Armstrong and his team physicians received lifetime bans and had to forfeit winnings as a consequence of USADA's investigation into the Armstrong-USPS Team for doping-related offenses.

As illustrated by state-sponsored doping cases, evidence of doping negatively impacts athletes' reputations, undermines public trust, and disrupts ties between countries in the sports world (Anderson, 2013). These cases demonstrate the extent of doping consequences as well

as the importance of Aruba's anti-doping initiatives and the reason this study attempts to evaluate its effectiveness and perception in Aruba itself.

## 2.2 International Context

After WADA was created on November 10, 1999, there was a clear sense of shared commitment around the world to the principles of drug-free sport. WADA was thus created as an international, independent organization to lead a global movement for doping-free sport. This was initiated after the International Olympic Committee (IOC) called for changes following a major doping scandal in 1988 (World Anti-Doping Agency, 2024). This was followed by the quick adoption of the World Anti-Doping Code (Code) by international sport organizations in 2003 and the quick ratification of the 2005 UNESCO Convention Against Doping in Sport by governments (Houlihan, 2019).

The First World Conference on Doping in Sport was held in Lausanne, Switzerland, in February 1999 by the International Olympic Committee (IOC), bringing together all stakeholders in the anti-doping movement. The Lausanne Declaration on Doping in Sport, which was the outcome of the conference, called for the establishment of an independent worldwide anti-doping organization to be in place in time for the 2000 XXVII Olympiad in Sydney, Australia (World Anti-Doping Agency, 2024).

WADA was thus founded with the goals of safeguarding athletes, promoting clean sport values, and upholding the spirit of sport worldwide. With the help and involvement of governments, public authorities, international organizations, and other public and private entities combating doping in sports, WADA was established as a foundation at the IOC's initiative. The athletic movement and international governments continue to support and fund the Agency. Conversely, WADA's governance and funding are based on an equal partnership between the sports movement and governments around the world.

## 2.3 Regional Context

Many signatories in the Caribbean region including Aruba are all under the oversight of the Caribbean Regional Anti-Doping Organization (RADO), which has its headquarters in Barbados. Aruba thus works with its neighboring countries to align and streamline current anti-doping efforts and enforce policies as a member of the Caribbean RADO. The Caribbean RADO's secretariat consists of 5 executive committee members, with the Aruban Olympic Committee's Director of Sports Development as the Chairman at Caribbean RADO (Wada, 2024). RADO's primary goal is to inspire athletes to perform at their highest level by making sure that all sports are fair and doping-free, with the mission of promoting and coordinating the fight against doping in sport in all forms in the Caribbean.

The Caribbean RADO plays a vital role in dope testing, or doping control as it is officially called. Through the testing process, highly qualified and seasoned Doping Control Officers (DCOs) make great efforts to guarantee that all athletes engage in ethical and just behavior on and off the field. Drug testing discourages athletes from using banned substances and methods. However, unlike any developed country with significant resources in Europe for example, countries in the Caribbean face many challenges specific to their contexts.

In the last 3 years, the Caribbean RADO has called for more education, testing and collaboration to strengthen anti-doping between Caribbean countries. The most important topics that were highlighted were increased human capital in the form of Doping Control Officers, education as the central pillar for anti-doping programs, and collaboration between Anti-Doping programs.

It is important to note that Aruba is a signatory through its status as an autonomous country being part of the Kingdom of the Netherlands, which has ratified the Anti-Doping Code and accepted the UNESCO international convention against doping in sport in 2006

(Ministerie van Algemene Zaken, 2026; *International Convention Against Doping in Sport*, 2026). The International Convention against Doping in Sport was thus extended Aruba.

### 2.4 Local Context

Aruba, being one of many countries to adopt guidelines created by WADA, has made an official commitment to combat doping in sports with the establishment of the National Compliance Platform in June 2024. Aside from having its own National Olympic Committee, this establishment marks a new step towards clean sport. This was done with the help of The United Nations Educational, Scientific, and Cultural Organization (UNESCO) Aruba and Comite Olympico Arubano (COA). In this context, some institutions support the implementation of anti-doping initiatives in Aruba. Namely, UNESCO Aruba, which is a key organization responsible for promoting Olympic values and sports governance fundamentally, all in order to implement anti-doping policies in line with international standards.

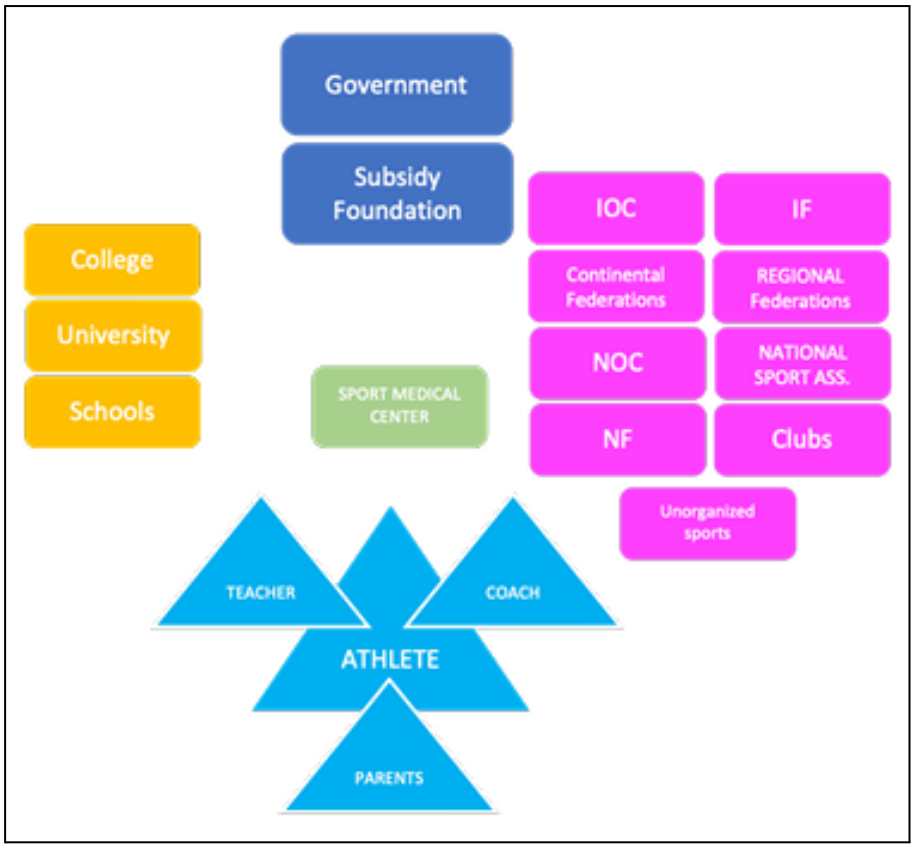
UNESCO Aruba is an organization under the United Nations (UN) that promotes international cooperation in education, sciences, culture, communication, and information through programs that contribute to the achievement of the Sustainable Development Goals defined in 2030 (*THE 17 GOALS | Sustainable Development*, 2015). The organization works alongside the Aruban National Anti-Doping Organization (Arunado) and the National Compliance Platform (NCP) to assess implementation gaps and the general state of anti-doping in Aruba. Notably, the NCP is a relatively new organization, having been established in June 2024 to combat doping in sports and its negative outcomes. As for Arunado, the organization works with certified local Doping Control Officers (DCOs) to implement anti-doping activities in and out of competition.

The national sports federations and various educational institutions in Aruba serve as the foundation for Aruba's sports system, with the government supporting the sporting

community with government-funded sport facilities and through the government-funded Sport Subsidy Foundation (SSA), which is funded by the national sport lottery 'Lotto pa Deporte'. The national Sport Medical Center (CEMEDAR) also provides medical and physical support services to athletes. These organizations work together to build Aruba's sports environment and make it possible for anti-doping education initiatives to reach important players at all competitive levels (As seen in Fig. 1). While UNESCO is not explicitly shown in the figure, it does support the anti-doping landscape financially and strategically through its current Secretary General that is part of the NCP.

**Figure 1.**

*Organizational Landscape in Sports in Aruba. Aruba Anti-Doping Education Policy 2025 - 2027.*




*Note.* Adapted from internal document of Comite Olympico Aruba, 2024. Unpublished.

**Table 1.**

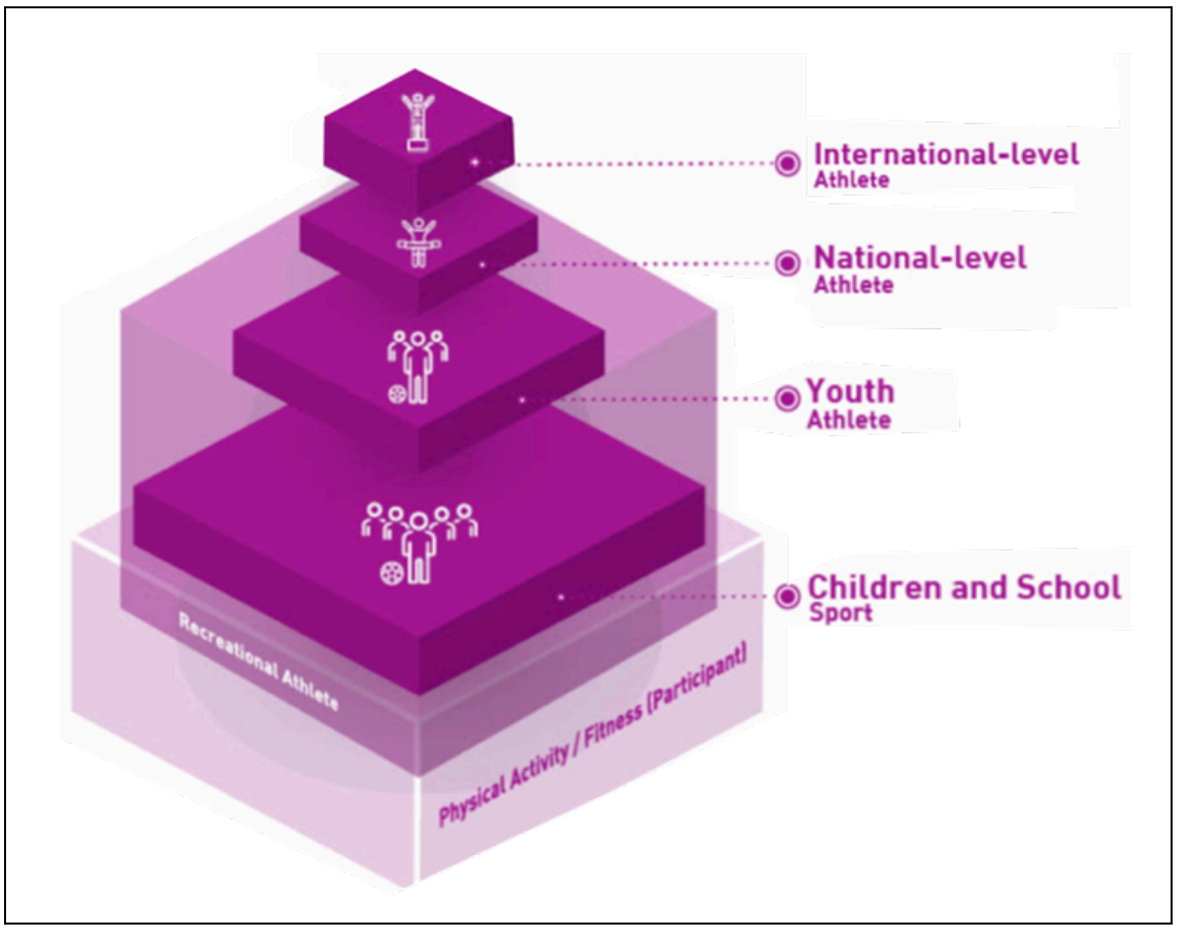
*Elaborative legend for Figure 1.*

| | |
|---|---|
| Yellow Boxes | Educational Institutions relevant to Aruban sport landscape |
| Dark Blue Boxes | The Government and its subsidy foundation for sports |
| Green Box | Central sport medical center for Athletes in Aruba |
| Purple Boxes | Sport organizations, such as sport clubs and federations that are involved in sports locally, regionally, and internationally |
| Light blue boxes | The stakeholders that affect and are directly in contact with the athletes |

In elementary and high schools, physical education is taught, and students compete in interschool sports regularly. Notably, there is a shortage in ongoing sports participation at the university level because higher education institutions do not offer formal physical education programs. This is based on the absence of courses or extracurricular activities pertaining to physical education in any Aruban university. There are about 24 national sports federations in the nation which are connected to the Aruban Olympic Committee (COA), each with their own club(s) and members. In terms of athletes in Aruba, at least 80% of them are regarded as national-level athletes (as seen in Figure 2), indicating a locally focused competitive and recreational base.

**Figure 2.**

*National Athlete Overview in Aruba. Aruba Anti-Doping Education Policy 2025 - 2027.*




*Note.* Adapted from internal document of Comite Olympico Aruba, 2024. Unpublished.

# 3. Literature Review

This chapter provides a comprehensive review of relevant literature and information concerning anti-doping initiatives, implementation, effectiveness, challenges, and the improvement of anti-doping initiatives in Aruba and internationally. The chapter is split into three core concepts surrounding the topic of anti-doping, which are education, research, and compliance. Each core concept consists of four sub-sections. These four sub-sections include an elaboration of anti-doping initiatives, perceptions and attitudes towards Anti-Doping initiatives, challenges with Anti-Doping initiatives, and lastly, improvement recommendations in regard to anti-doping initiatives.

Each section begins with an overview of sports policies and the response of sports organizations, Athlete Support Personnel (ASP), and athletes to anti-doping regulations, as well as a view of their roles. This chapter concludes with a conceptual framework that synthesizes these key concepts through the subjects of anti-doping education, research, compliance, and perceived effectiveness of anti-doping initiatives.

## 3.1 Anti-Doping Education

Anti-Doping education initiatives are policies and programs that raise awareness, inform, communicate, to instill values, develop life skills and decision-making capability to prevent intentional and unintentional anti-doping rule violations as mentioned previously (World Anti-Doping Agency, 2019). An education program is a group of educational initiatives carried out by a signatory in order to accomplish the desired learning goals according to WADA's International Standard for Code Compliance (2024). These initiatives can take different forms such as awareness campaigns, a policy implementing a national educational plan, monthly or annual seminars and workshops for athletes and ASP's, etc.

These initiatives therefore contribute to the actualization of WADA's main objectives of safeguarding athlete health and athletes' right to participate in a doping-free sport.

Education makes up one of the main pillars in anti-doping policies and programs, making it a priority in the majority of policy implementation (WADA, 2021). In the Anti-Doping Code created by WADA, it is mentioned that education is crucial for many things, such as transferring knowledge, values, long-term influence. It also opens up the opportunity for international collaboration, which is encouraged by WADA. This sub-chapter will describe the meaning of anti-doping education and its initiatives, followed by a description of such initiatives. It then continues by exploring different perceptions and attitudes towards anti-doping education initiatives among athletes, ASPs, and sport organizations. The sub-chapter then goes on to illustrate different perspectives and attitudes on anti-doping education initiatives, followed by mentioning the different challenges accompanied by anti-doping education, and ends by indicating the impact that these initiatives have on anti-doping in general.

**Anti-Doping Education Initiatives**

Anti-Doping education initiatives can take form of an official document as mentioned previously. For instance, according to the Aruban Olympic Committee Anti-Doping Rules , "ARUBAN OLYMPIC COMMITTEE shall plan, implement, evaluate and promote Education in line with the requirements of Article 18.2 of the Code and the International Standard for Education" (Aruban Olympic Committee, Art. 17, P.p 55, 2021). This makes most of the education initiatives in Aruba intended to align with the International Standard for Education created by WADA.

Additionally, other Anti-Doping education initiatives can take the form of an established national anti-doping education plan, collaboration with regional partners, the

implementation of the Anti-Doping Education and Learning Platform (ADEL), etc. In Aruba, there are multiple important documents that guide and shape the anti-doping educational landscape, which are derived from the WADA Anti-Doping Code and its international guideline documents, such as the Guidelines for the International Standards for Education (ISE). These documents include the *Anti-Doping Education Policy 2025-2027* and *The Aruban Olympic Committee Anti-Doping Rules 2021*. They aim to provide an outline of the anti-doping education policy of Aruba and touch upon the topics of different stakeholders' rights and responsibilities.

As for education according to WADA's Anti-Doping Code, there are three major guiding principles. These are (1) Promoting Fair Play & Athlete Well-Being, (2) Awareness and Prevention, and (3) Instilling Ethical Values. The first principle is accompanied by the idea that education initiatives guarantee a global, well-coordinated anti-doping strategy that protects athletes' health, maintains a level playing field free from doping, and preserves the spirit of sport. This is followed by the second principle, which includes the initiatives of stopping both deliberate and unintentional doping violations. These initiatives thus aim to increase awareness, disseminate correct information, and improve decision-making abilities. The third principle is acknowledged as value-based education that strengthens the spirit of sport and promotes integrity and personal values, and that all signatories must design, carry out, and oversee programs (i.e the creation of an anti-doping curriculum/program) that adhere to the *International Standard for Education* (2019). These programs must also include awareness, information, values-based, and education components, all of which must, at the least, be accessible online.

The Education program's explicit justification must serve as the basis for prioritizing specific target groups or activities. These specific target groups must also understand the following key Anti-Doping topics through the education program:

1. Clean sport values & rights: WADA Code obligations, such as ‘Strict Liability’ of athletes when it comes to potential substances found in their systems.
2. Athletes’, ASP’s and other stakeholders’ rights and responsibilities under the Anti-Doping Code.
3. Doping consequences: Punishments as well as effects on the body, mind, society, and economy.
4. The Anti-Doping rule violations: Prohibited Substances & Methods, sanctions, and supplement hazards.
5. The list of banned substances and methods.
6. Medication use: Safe medication practices and Therapeutic Use Exemptions (TUEs).
7. The testing procedures: This includes sample collection, blood tests, urine tests, and the Athlete Biological Passport.
8. Athletes in the registered testing pool: This means athletes must comply with whereabout requirements and the utilization of The Anti-Doping Administration and Management System (ADAMS).
9. Whistleblowing; Promoting the disclosure of doping-related issues.

In the case of Aruba, it is stated that “ Since the Aruban Olympic Committee acts as the National Anti-Doping Organization in the country, any reference to the National Anti-Doping Organization in Aruba throughout these Anti-Doping Rules shall be understood as a reference to the Aruban Olympic Committee.” (Aruban Olympic Committee, 2021). This also means that the Aruban Olympic Committee has most, if not all, relevant information required surrounding Anti-Doping posted on their website.

Regarding target groups and education pools, the WADA code requires that signatories, such as national anti-doping agencies, choose important target groups, such as athletes and coaches, and set up an education pool that satisfies WADA's minimal standards according to article 18.2.1 (2021). Additionally, regarding the implementation of education programs, in compliance with WADA's guidelines, education programs must be provided by qualified and authorized staff according to Article 18.2.2 of the WADA code. In Aruba's case, the Aruba Anti-Doping Commission (Arunado) has developed an 'Anti-Doping Education Workbook' for elementary schools with the goal of providing an introduction to anti-doping and its fundamental principles, as mentioned in the National Education Policy 2025-2027 (2024). The Anti-Doping Commission plans to select elementary schools as part of their target pool for education, as well as negotiate with them to include these educational workshops as part of their education program. In addition to this, to improve the awareness and implementation of anti-doping principles throughout its sports community, Aruba's Anti-Doping Commission has implemented a multi-faceted educational approach as stated in the National Education Policy. One of the main components is targeted training for athletes in the National Testing Pool (NTP) on their roles and use of the ADAMS platform, with additional education sessions for support staff and families.

To increase long-term capacity, anti-doping topics are being incorporated into education programs tailored for coaches, along with online training options for coaches and other athlete support professionals. Anti-doping officials, including those involved in education, sample collection, and TUE evaluations, are also given priority in order to keep them updated on best practices and regulatory standards. Moreover, digital educational outreach is facilitated through the Aruban Olympic Committee's website and social media, promoting the distribution of accessible anti-doping information. These local initiatives are complemented by collaborations with international organizations such as WADA, RADO,

UNESCO, and Aruban Sport Subsidie Foundation (SSA), which offer technical expertise and resource assistance. Collectively, these initiatives illustrate Aruba's strife towards a knowledge-based and ethically sound anti-doping culture.

According to the National Education Policy 2025-2027 in Aruba (2024) published by COA, the target groups and education pool in Aruba includes the head office of CEMEDAR (Physiotherapeutic clinic), all national sports federations and clubs, sports event organizers elementary, middle schools and colleges, ASP's, elite athletes, and athletes in the National Testing Pool. Moreover, COA has authorized and qualified staff to provide Anti-Doping education in the form of an Anti-Doping Commission Education Officer (The Aruban Olympic Committee, 2024) and National Federations (Comite Olimpico Arubano, Art. 18.3, 2021).

Lastly, when it comes to coordination and cooperation, it is stated that to improve anti-doping education initiatives, signatories must coordinate their efforts by working with governments and other signatories (WADA, 2021). In Aruba's case, the Aruban Olympic Committee Anti-Doping Rules (2021) stipulate that each National Federation of Aruba shall accept and abide by the spirit and terms of Aruba's National Anti-Doping Program and these Anti-Doping Rules as a condition of receiving financial and/or other assistance from the Government of Aruba and/or the Aruban Olympic Committee. This shows that the National Federations, the Olympic Committee, and the Government of Aruba coordinate with each other to promote anti-doping initiatives not only in terms of mandates, but finance as well.

**Perceptions and Attitudes towards Anti-Doping Education Initiatives**

Interestingly, according to a study on attitudes toward Anti-Doping education among coaches by Shindo et al., over 90% of the approached coaches in the study believed that anti-doping lectures are essential and would make use of the available resources, while only

roughly one-third had actually given such instruction (2019). The study also illustrated that coaches' understanding of the importance of anti-doping education and the actual implementation of it remains at a considerable gap. This means that there is not enough being done in terms of implementation in relation to the coaches' perceived relevance toward anti-doping education.

In contrast, Mazanov et al. (2013) studied how athlete support staff (ASP) perceived anti-doping instructions and pinpointed the main obstacles to its success. Due to their perception that doping was unrelated and not relevant enough to their jobs, some ASPs showed little interest in educational initiatives. The study found that ASPs had an inadequate understanding of their ethical duties and significant gaps in their awareness of their responsibilities under the WADA Code. Overall, the results show that anti-doping education initiatives may not achieve their desired outcomes if these perception and knowledge gaps are not addressed. However, it was the opposite in the case of the previous paragraph in terms of perception, which involved positive perception on anti-doping education. This does not mean that perceptions have no impact on implementation, but quite the opposite as mentioned by Mazanov et al.. Rather, there may be a lack of incentive or driving factor from perception leading up to implementation.

Conversely, athletes may understand the value of anti-doping education, but they frequently view existing initiatives as ineffective, uninteresting, and poorly designed, according to Woolf (2020). Many express dissatisfaction with the quality and delivery of sessions, outlining a lack of practical applicability and instructional structure. Additionally , Woolf argues that athlete distrust is a reflection of a larger concern that current educational initiatives are not doing enough to promote true comprehension and dedication to clean sport.

Moreover, an article by Loland about education in Anti-Doping mentions that there is evidence of deep-rooted and negative attitudes of athletes toward Anti-Doping educational

programs and policies (2017). Loland also argues that rather than simply enforcing regulations, anti-doping education should emphasize instilling ethical boundaries imposed on oneself in light of these perspectives. While current programs frequently lack long-term engagement, athletes fail to comprehend and embrace anti-doping values and instead see them as temporary external rules.

**Challenges with Anti-Doping Education**

Seeing as raising awareness is a part of Anti-Doping education, it is a crucial component in Anti-Doping education programs and policies. Not only is it an important concept that broadly spans different aspects that need to be communicated to the relevant target groups of anti-doping organizations, but awareness is also required significantly by WADA (WADA, 2021). Also, with every objective of the WADA Code, there are some challenges. These challenges span from a lack of training for coaches and ASP's to negative perceptions of Anti-Doping education initiatives among athletes, all of which may contribute to a lack of awareness.

An example of the many challenges regarding Anti-Doping education would be that amateur athletes frequently lack knowledge about the risks of over-the-counter drugs and supplements, as well as anti-doping education in general. A lot of athletes rely on advice from trainers, coaches, peers, and internet sources, while information from these sources tends to be inaccurate or misinformed (Erickson et al., as cited by Henning, 2016).

Conversely, according to an article about elite athletes' attitudes, beliefs, and knowledge, there is a widespread perception that anti-doping programs are ineffective, and many athletes complain about the methods used to administer tests (Morente-Sánchez, 2013). It is possible that these negative views are caused by an influential actor. As a matter of fact, according to Morente-Sánchez, it seems that coaches are the primary source of information

and influence for players, rather than physicians or other experts. This may hint at the possibility that coaches are the first line of knowledge transfer in terms of anti-doping information. Although athletes are growing more accustomed to anti-doping regulations, there is still a knowledge gap on banned substances and anti-doping regulations that needs to be addressed through suitable educational programs. Morente-Sánchez also mentions that information about dietary supplements and PEDs' side effects is also lacking. Going back to the initial argument made by Morente-Sánchez, this may suggest that the lack of awareness or the level thereof may have an impact on the level of trust athletes have in anti-doping policies.

Other organizational challenges also form a major part of the barriers when it comes to spreading awareness on Anti-Doping. For instance, anti-doping education, as explicitly mentioned in the Code, is implemented in collaboration with governments and under the autonomous organizations responsible for managing the country's sports landscape. It is generally known that governments have to manage and sometimes negotiate resources carefully in order to reach their intended goals. This is also a major challenge experienced by both sports organizations and governments. A notable illustration, according to Patterson et al. (2016), would be the shortage of resources, which was considered a challenge in terms of staff. Staff in charge of anti-doping education in organizations frequently have many other anti-doping duties as well. Due to their frequent multitasking, anti-doping personnel often struggle to dedicate all their time to education. They also mention that funding for education is a challenge for certain organizations, which hinders their capacity to provide successful programs.

In contrast to the previous paragraph, there may be instances that show that enough is being done in regard to education initiatives, operationally speaking. However, some of the intended goals may not be reached due to misplaced focus. As argued by Blank and Petróczi

(2023), while stakeholders who are provided with thorough descriptions of anti-doping education initiatives may aid with output-based evaluation, it is not enough to evaluate the social and societal impacts of anti-doping education initiatives. Petróczi also goes to mention that the social impact of anti-doping education can be characterized by the development of athletes' personalities and decision-making skills, with an emphasis on how athletes use their education to overcome obstacles to performance enhancement, adhere to regulations, and preserve the values of clean sport, while also taking on personal accountability to promote fair, genuine, and socially responsible sport.

**Recommendations For Anti-Doping Education Initiative Improvements**

An important factor in determining the overall success of anti-doping programs is anti-doping education. According to the WADA Code (2019), education serves as both the key principle and a tactical instrument to encourage values-based decision-making, increase compliance with regulations, and encourage clean sport behavior at all levels of participation.

For instance, according to Nicholls et al. (2025), anti-doping education programs aimed at university students have been shown to improve morality, increase confidence in speaking about doping, decrease positive attitudes toward doping, and dramatically increase doping-related knowledge. All are important psychosocial factors that promote compliance with regulations and clean sport advocacy. These results support better-informed, morally sound, and prevention-focused environments.

Furthermore, according to Woolf, if athletes were guided by principles from education and other relevant sectors, especially in terms of integrative and constructive alignment, the design of educational programs may be enhanced (2020). Woolf goes on to argue that it is unlikely that the severe lack of anti-doping knowledge amongst athletes will change significantly, despite WADA's attempts to make education a key pillar of doping prevention.

This is a consequence of a misalignment between WADA's requirements for athletes, the strategies they use to assist athletes in this endeavor, and the way they evaluate whether athletes have reached these requirements. For example, despite the fact the International Standard for Education mandates that anti-doping programs encourage athletes' comprehension and decision-making regarding clean sport, many educational initiatives are assessed more by course completion or knowledge-based tests than by demonstrated behavioral change (WADA, 2021). The effectiveness of anti-doping education programs is thus typically limited by a lack of alignment between learning objectives, activities, and assessments. Also, Woolf argues that current tools like ADEL and ALPHA often focus on passive knowledge transfer rather than active learning. Therefore, to enhance memory retention and better support the objective of helping athletes understand anti-doping regulations and obligations, effective education should include retrieval practice (recalling information from memory), interleaving (covering multiple topics within a single session, and other active teaching techniques.

For example, despite the fact that the International Standard for Education mandates that anti-doping programs encourage athletes' comprehension and decision-making regarding clean sport, many educational initiatives are assessed more by course completion or knowledge-based tests than by demonstrated behavioral change (WADA, 2021).

Additionally, according to an article that assessed the effectiveness of anti-doping programs, it was discovered that the assessed education program raised athletes' awareness of anti-doping, their engagement with anti-doping procedures, and their understanding of the Spirit of Sport and moral principles (Hurst et al., 2023). To go into detail, the anti-doping education program was comprised of a single, 60-minute class session facilitated by experienced educators which included the Prohibited List, anti-doping rule violations, the Code, and the Spirit of Sport principles. Testing protocols, athlete rights and obligations,

medication checks, TUEs, supplement hazards, and whistleblowing were also among the topics covered by the participants. This specific session led to improved athlete participation and comprehension by featuring interactive teaching elements like role-playing, group discussions, and Q&A. Empirical evidence in the article thus supported the fact that a national anti-doping education campaign can effectively lower an athlete's risk of doping and intention to use banned substances. Interestingly, the study concluded that the possibility of stopping athletes (in this case, through national anti-doping programs among other practices) from consuming a supplement contaminated with a banned substance increases when the tendency to consume dietary supplements is decreased (Chan et al., as cited by Hurst et al., 2023). In relation to this, Hurst suggested that if an athlete's morals are relatively low, altering their decision to use nutritional supplements may also alter their vulnerability to doping. Based on this finding, education thus may have an important role in shaping athlete behavior towards supplement consumption, and directly and indirectly susceptibility toward doping.

The purpose of anti-doping education programs, which are directed by national policies and WADA guidelines, is thus to increase athletes' and stakeholders' awareness, moral principles, and compliance. Given the fact that education is acknowledged as fundamental, research shows that its effectiveness is often limited by gaps in implementation, passive information transfer, and misalignment between education objectives and monitoring procedures. The effectiveness of education is further hampered by issues including scarce resources, limitations in information, and negative perceptions. Overall, the literature indicates that in order to increase participation and promote long-term clean sport behavior, more interactive, context-specific, and values-based strategies are required.

### 3.2 Anti-Doping Research

Anti-Doping research initiatives are policies and programs that aid in the implementation and execution of effective doping control programs as well as facilitating the spread of information and training on doping-free sports. These initiatives may take the form of scientific, medical, analytical, statistical, and physiological research, as well as social, behavioral, legal, and ethical studies, all conducted with either a quantitative or qualitative approach. Anti-Doping research is crucial for combating doping in sports due to the ever-evolving nature of doping methods and the emergence of new banned substances. Anti-doping research from a social science perspective (relevant to this research) explores how athletes, institutions, and society understand and respond to doping and anti-doping efforts. According to the WADA Code (2019), anti-doping research aids in the creation and execution of effective doping control programs as well as the dissemination of knowledge and instruction on drug-free sports.

Notably, all Signatories and WADA must support and encourage anti-doping research and take all appropriate steps to guarantee that its findings are applied to further objectives that align with the Code's requirements, as mentioned earlier (WADA, 2021). In light of this, one of the most foundational initiatives on anti-doping research is the establishment of policies on research and its implications. For instance, according to the ‘Roles and Responsibilities of Regional Anti-Doping Organizations’ sub-section of the Code, the role of Anti-Doping organizations is “to promote anti-doping research” (WADA, p.p 138, 2021). This places responsibility on the organizations and their partners to execute this initiative effectively.

Additionally, according to the Social Science Research Strategy created by WADA (World Anti-Doping Agency, 2020), there are six priority areas when it comes to research.

These priorities include the first one being ‘Coordinating the Research Agenda’, which is the objective of raising awareness of social science research in clean sport, eliminating duplication, aligning financing, and establishing clear global research goals. The second priority is developing ‘Global Understanding’. The objective is to develop a data-driven, thorough knowledge of the impact of anti-doping initiatives beyond merely testing numbers. This is done through new metrics like a Clean Sport Index and evaluations on accidental doping. The third priority is ‘Sharing Knowledge’, with the goal of connecting researchers, practitioners, and stakeholders through user-friendly formats and platform development. WADA aims to make research findings accessible and actionable. The fourth priority is ‘Setting an Example’. In order to ensure ongoing learning and development, the objective is to incorporate monitoring and evaluation into anti-doping programs and assist others in doing the same. The fifth priority is ‘Building Research Capability’. The aim is to offer training, mentorship, and collaborative opportunities in an effort to increase the capacity for research worldwide, particularly in underrepresented areas. The last priority is ‘Building Partnerships for Strategic Research’. In order to keep and increase funding for anti-doping social science research, the aim is to collaborate with academic institutions, sponsors, and other interested parties. All of these priorities stem from the main objective of investing in social science research in order to preserve and deepen our comprehension of the behaviors WADA is trying to prevent or reinforce. This will increase the capacity of developing effective policies and procedures.

The Code (WADA, 2021) often groups anti-doping research with education (as seen in the World Anti-Doping Code), but it does not have the same formal international standards. Nevertheless, it serves a complementary and often foundational role in combating doping by keeping track of evolving behaviors, evaluating policies, and coming up with fresh approaches. In order to base their efforts on facts rather than assumptions, anti-doping

organizations aim for more evidence-based research. WADA (2021) emphasizes that research should be coordinated through WADA and that athletes, Signatories, and stakeholders should be informed of findings when appropriate. Additionally, measures must be taken to prevent results from being misused for doping.

The importance of anti-doping research can be illustrated by a mixed-methods study on doping attitudes and prevention. In this study, sports professionals believed that education and awareness training are a more efficient way to prevent doping than sanctions, which led to more effectiveness by reaching the goal of doping prevention at a lower cost in regards to time and resources (Ömercioğlu & Erman, 2023). The researchers in this study afterwards advised creating a national action plan that prioritizes teaching and guidance over punishment, as well as an independent, multi-stakeholder anti-doping body, in light of the findings. This illustrates that social research can help shape modern anti-doping programs, policies, and approaches when exploring perceptions and creating a roadmap from these perceptions.

As for the priority of establishing research partnerships, an article by Heuberger et al. reports that over the past 22 years, the establishment of WADA influenced doping behavior and prevalence and helped coordinate anti-doping initiatives (2021). This then led to the coordination and collaboration between countries under WADA's alignment. However, the global anti-doping system along with the list of banned substances that came into fruition as a result of WADA's coordination also showed signs of deficiencies and lack of governance. Heuberger et al., therefore implored for improved collaborations across sectors to reform WADA's list of prohibited substances and educational initiatives.

When it comes to the priority of building capacity, anti-doping organizations must involve not only other organizations and researchers, but also their target group. In a paper that explored the meaning and importance of 'clean sport' and 'clean athlete identity' among

athletes, it was concluded that evidence-based anti-doping initiatives should promote the socially constructed identity of clean athletes according to Petróczi, et al. (2021). This means that participatory and collaborative research involving athletes improves intervention effectiveness and athlete involvement. Thus, anti-doping research must explore, acknowledge, and respect each athlete's unique definition of what it means to be "clean" in order to have any real impact.

**Perceptions and Attitudes towards Anti-Doping Research Initiatives**

WADA has and still is creating resources to support anti-doping organizations' research and evaluation processes and offers suggestions for areas that need attention (Donovan et al., 2015). By encouraging research and intervention efforts by anti-doping agencies that previously lacked the capacity to conduct necessary research and turn their findings into action, it is hoped that the fight against doping would be improved. Thus implying that anti-doping research is crucial for anti-doping.

For instance, Efverström et al. (2016) subtly support the idea that more research should be used to inform anti-doping legislation. The study shares that when anti-doping regulations are informed by relevant stakeholders and supported by empirical evidence, athletes view the system as more valid and equitable. The study also suggests that in order to improve legitimacy, efficacy, and trust in anti-doping systems, organizations must respect and use research, even though it does not directly evaluate how anti-doping organizations view it. To close the gap between regulation and athlete perception, the authors highly encouraged more research-based, participatory policymaking. Therefore, it can be seen that the researchers emphasize how crucial it is to use research to better understand athlete experiences and increase compliance, especially social science research.

Adding to this, Efverström et al. (2016) highlight how athlete perceptions of anti-doping legitimacy improve when policies are evidence-based and stakeholder-informed. Although their study centers on athlete views, it underscores the need for social science research to bridge the gap between regulation and athlete experience. By making policy more participatory among stakeholders and research-driven, organizations can improve compliance, trust, and long-term policy effectiveness while promoting positive perceptions on these policies.

WADA has developed various tools, resources, and suggestions for areas in research that need attention to support anti-doping organizations in conducting research and evaluating their programs, particularly for anti-doping organizations lacking the capacity to do so independently (Donovan et al., 2015). For instance, the researchers mentioned that the research package includes a standardized questionnaire, explicit survey standards, and an analysis framework to help anti-doping organizations collect accurate data, compare results across populations and time, and turn findings into practical program improvements. These efforts are based on the view that research-informed interventions strengthen anti-doping systems either by improving anti-doping policies or understanding the anti-doping landscape better.

**Challenges with Anti-Doping Research**

In terms of challenges, Social Science Research (SSR) is still neglected or underutilized in anti-doping policies and initiatives, despite advancements. The global clean sport community is still partially involved in social science research at the program level, and even less at the policy level, despite the advancements and the amount of data collected and shared (WADA, 2020). This means that most social science research in anti-doping focuses on small projects and programs, which are often short-term, instead of helping shape larger

policy decisions that shape the anti-doping landscape in the long term. Some notable challenges that either are the causes or symptoms of this, therefore include location and language differences in research participation and limited funding that hinders big or long-term research. These challenges eventually make it more difficult to evaluate the long-term effectiveness of education and carry out focused interventions. To increase the influence of research within the clean sport community, a more strategic and proactive strategy is required, according to WADA.

In terms of the actual research process, according to a report that analyzes certain anti-doping research challenges (Bowers and Bigard, 2017), it is suggested that athletes are often reluctant to disclose sensitive information regarding doping, which makes it challenging to collect reliable data. Furthermore, Bowers and Bigrad emphasize how the practical implementation of research findings such as increased collaboration between researchers and ADOs, research based adjustments to education programs, and research-informed decision making are impeded by the absence of structured collaboration among important stakeholders, and that the scope and depth of these research initiatives are limited by a lack of financing and resources.

**Recommendations For Anti-Doping Research Initiative Improvements**

In a study involving attitudes and belief levels regarding sports supplements among students receiving education on ergogenic aids and anti-doping practices, It is reported that student attitudes toward performance enhancement can be positively impacted by education initiatives regarding doping and ergogenic aids (Karakaya & Ceyhan, 2025). The study follows up by mentioning that these kinds of educational initiatives are crucial for increasing knowledge and awareness about ergogenic aids and anti-doping initiatives. However, to thoroughly examine students' attitudes regarding doping and sports supplements, qualitative

research techniques such as focus groups and in-depth interviews should be used. The researchers also recommend making use of longitudinal research to examine how educational initiatives affect attitudes and perceptions about performance improvement over the long run.

Conversely, A study on anti-doping research mentions that the focus of anti-doping research has historically been on determining the risk factors linked to doping, but there is a growing understanding that it is equally important to understand why certain athletes decide to abstain (Lux & Vinther, 2023). Lux & Vinther suggests that future research should examine the protective psychological, social, and environmental elements, such as moral principles, coaching influence, or patriotism, all of which can be used to encourage clean sport behavior. Although costly, Lux & Vinther report that long-term research would greatly expand the understanding of how doping attitudes and practices change over time and what kinds of interventions can have long-lasting effects.

Lastly, and most notably, WADA provides a Social Science Research Package to give NADOs research instruments and guidelines on how to conduct social science anti-doping research. According to WADA's Social Science Research Package for Anti-Doping Organizations (Donovan, et al., 2015), coordinating research projects with policy-relevant outcomes that directly promote anti-doping education and compliance is one of the most effective strategies to enhance anti-doping research. Research that supports intervention design, effective policy implementation, and evaluation should be the primary focus of organizations, according to the paper, rather than only descriptive studies. This is an effective direction to follow especially in the case of an organization starting freshly with anti-doping research. The researchers also went on to advise using applied behavioral and social science approaches to assess the efficacy of particular policies and initiatives in real-life situations. It is thus implied that using a combination of social science approaches with practical goals aligned with the improvement of education and compliance.

Anti-doping research initiatives therefore aim facilitate evidence-based policy, improve education, and strengthen compliance by studying athlete behavior, attitudes, and intervention effectiveness. Research is still underutilized and limited by issues like financial limitations, a lack of collaboration, and the difficulty of gathering reliable data, even though WADA sees research as a significant steppingstone for the development of anti-doping. The literature indicates that collaborative and research-informed approaches can enhance policy effectiveness, legitimacy, and confidence. Although, strengthening the long-term impacts of anti-doping initiatives requires the alignment of policy objectives with the increase of research capacity through collaboration, the use of rudimentary research approaches such as interviews, and the utilization of the SSR. and aligning it with useful policy objectives.

### 3.3 Anti-Doping Compliance

Anti-Doping compliance and Monitoring initiatives refer to WADA's (and signatories') activities and role in ensuring all signatories and responsible stakeholders comply with the Anti-Doping Code. This counts for both international and national compliance management, which involves anti-doping organizations, sports federations, all the way to ASP's. These initiatives can take the form of on-site audits, Mandatory Information Requests by WADA, the use of Anti-Doping Administration & Management System and the Code Compliance Questionnaire by WADA (World Anti-Doping Agency, n.d.). These initiatives are connected to local laws and regulations, which are directly assessed for compliance in WADA's compliance program, highlighting their connection with code compliance and monitoring initiatives. With the development of global frameworks like the World Anti-Doping Code, this field has grown in significance. As the global anti-doping scene becomes more complicated, monitoring and compliance systems aid in identifying implementation gaps, encouraging accountability, and directing corrective actions, while

preserving the integrity of sport. This essentially means that the more successful an anti-doping program of a NADO is, the more compliant they are with the Anti-Doping Code.

**Anti-Doping Compliance Initiatives**

Aside from educational outreach, anti-doping efforts also require structured mechanisms for monitoring compliance and ensuring accountability. According to the Code (2021) and the International Standard for Code Compliance by Signatories (ISCCS) (2024), national anti-doping organizations (NADOs) must have in place transparent, consistent systems for evaluating adherence to anti-doping rules by athletes, sports federations, and institutional partners". The Aruban Olympic Committee, acting as Aruba's NADO, has official Anti-Doping rules in place as of January 2021 under the official rulebook titled: 'Aruban Olympic Committee Anti-Doping Rules' (Comite Olimpico Arubano, 2021). This policy document includes among other the topics of education, roles and responsibilities of federations, athletes, and ASP's, doping consequences, etc. This is also included in article 20 of the Anti-Doping Code.

Notably, like for any other signatory, WADA also monitors Aruba's compliance through mechanisms like the Code Compliance Questionnaire (CCQ), audits, and annual reporting requirements. In terms of education, testing, sanction enforcement, and results management, these methods evaluate compliance to standards. This is because the Aruban Olympic Committee (COA) acts as both the NOC and NADO, as mentioned earlier in the paper. Therefore, all monitoring and compliance responsibilities are centralized under this body. COA is thus expected to submit reports to WADA and respond to code compliance measures.

Interestingly, article 18.3 of the Aruban Olympic Committee Anti-Doping Rules (2021) states that in order for national federations in Aruba to receive institutional and

financial support, they must adhere to the national anti-doping framework. This may be different from other signatories that for example may have access to more resources and/other management methods, which could lead to different management systems with sports federations.

Conversely, in terms of regional and/or international collaboration (also a component of compliance), the Caribbean Regional Anti-Doping Organization (RADO) offers compliance staff training, monitoring resources, and capacity-building. RADO collaborates with Aruba to support its anti-doping compliance initiatives, as mentioned in article 6.2.1 of the International Standard for Code Compliance by Signatories (2024). This Shows that the compliance and effectiveness of initiatives are influenced by both WADA and its Signatories.

**Perceptions and Attitudes towards Anti-Doping Compliance Initiatives**

A perceived sense of relevance would be among the important things to consider when it comes to perceptions on anti-doping compliance and monitoring. For instance, according to Engelberg (2015), athletes deemed accountability measures relevant to the point of recommending tougher penalties and further testing to make deterrents seem more credible. They also wanted sanctions to be applied to coaches, support personnel, and vendors who were involved in encouraging or enabling doping, exhibiting a sense of perceived relevance for anti-doping policy enforcement. To put it briefly, there was a demand for concrete, not merely rhetorical, action against doping. Athletes from sports where doping was accepted or encouraged favored an alternative strategy, which was legalization of some prohibited doping substances.

Although athletes generally support anti-doping policies, they feel that they are poorly implemented, which limits their effectiveness. Woolway et al. (2020) mentioned that misconceptions about the prevalence of doping and the perceived lack of legitimacy in

anti-doping rules and organizations may lead to non-compliance with the system. Most athletes trust their national anti-doping authorities, but they are skeptical about the consistency of anti-doping efforts at an international level. Many consider procedures like testing and location tracking as intrusive and doubt the system. The majority of athletes believe that the level of punishment is either acceptable or insufficiently punishing.

Also, in a study examining elite athletes' perceptions of anti-doping compliance mechanisms titled, it was revealed that there is a combination of commitment and concern toward anti-doping initiatives. To clarify, in order to show their honesty, athletes frequently went above and beyond the rules and assist anti-doping initiatives (Qvarfordt et al., 2019). They did, however, also voice their frustration with the lack of autonomy, limited access to information, and restricted participation in the formulation of public policy. Perceptions of legal procedure, which are strongly linked to legitimacy and, eventually, compliance, may be threatened by these limitations.

In terms of sports organizations' perceptions, many of them may see compliance requirements as burdensome or politically difficult and they frequently lack the resources or willingness to fully adhere to standards (Houlihan, 2013). For example, many national governing bodies view compliance with the Code as resource-intensive and politically challenging, with funding constraints and political factors frequently influencing compliance rather than true institutional commitment. Therefore, the effectiveness of anti-doping initiatives is still threatened in the absence of effective monitoring, balanced oversight, and stimulating incentives, particularly from the perspectives of sports organizations and governments. The study by Houlihan also mentions that there are concerns that, instead of demonstrating a strong, continuous commitment, sports organizations just show formal commitment. This illustrates how sports organizations view anti-doping compliance and monitoring programs with concern and at times skepticism.

Notably, sports organizations' perceptions of compliance and monitoring are critical but mixed, according to a study assessing staff perceptions on the legitimacy of anti-doping policy implementation among RADOs (Skinner et al., 2022). They also discovered that many employees believe that WADA's monitoring instruments, particularly the Code Compliance Questionnaire (CCQ), are rigid and out of sync with local context, especially for NADOs that are newly established or have few resources. To clarify, the CCQ uses uniform benchmarks that frequently don't account for the reality of newly formed or resource-constrained NADOs. As a result, organizations with little funding, personnel, and/or technical expertise find it difficult to comply with its strict requirements, which encourages checklist-ticking rather than genuine improvements in anti-doping implementation. As a result, perceptions of rigidity and context-misalignment are among the various that have been discovered. In addition to these, Skinner et al. states that certain organizations' compliance was carried out only covering the surface requirements in order to avoid penalties. Others discovered that genuine efforts are undermined when contextual adaptability was lacking, although most people agree that a worldwide regulator like WADA is necessary. Conversely, top-down enforcement strategies have been shown to undermine procedural legitimacy, which can cause frustration and possibly withdrawal from meaningful compliance. According to Geeraert (2018), when organizations do not consider certain requirements as legitimate, compliance-driven governance approaches may be impacted negatively. Geeraert argues that when policies that prioritize compliance alone may only result in minimal adherence, whereas involving federations in discussions on governance principles increases their willingness to implement them beyond formal requirements. All of these instances point out that certain requirements and approaches hinder meaningful compliance and only encourages surface-level rule adherance.

**Challenges with Anti-Doping Compliance and Monitoring**

Although WADA prohibits a lot of substances, some that are permitted might still be harmful to one's health and be abused. For instance, despite worries about abuse, drugs for hypothyroidism are allowed (Tandon et al., as cited by Henning, 2016). Another instance would be sleeping pills. Commonly used for rest and recuperation, these pills are also permitted despite the possibility of misuse, addiction, and negative side effects (Kripke, as cited by Henning, 2016). This can be followed by a critique of current and/or proposed regulations on substances and also WADA's principle of protecting athlete health, which could serve as a challenge in regard to compliance.

Another barrier to Anti-Doping compliance and interorganizational effectiveness may be policy/contract ambiguity. Interorganizational effectiveness may be affected by a contract that is ambiguous about each partner's roles and responsibilities (Zheng, 2020). Zheng provides a good example of the use of ambiguous words such as "best efforts" and "reasonable" when describing proposed actions in a policy. This means that due to ambiguity, multiple interpretations may arise for these words, which can be made by stakeholders from different levels ranging from the policy's targeted group to those laterally affected.

Moreover, there are other organizational barriers that counteract Anti-Doping compliance but on the ASP level, such as misuse of management staff influence. Shaw (2019) elaborates on past instances where athletes were unknowingly doped by support personnel (ASPs) as well as coaches and team doctors prescribing athletes drugs without first consulting WADA's list of prohibited substances. Thus, even though strict liability may be very unfair to athletes, its presence is necessary to prevent the development of a sports culture that would encourage athlete support personnel and any other influential agent to exploit their athletes and give them performance-enhancing drugs without their knowledge.

When it comes to monitoring, A lack of resources, a lack of technical expertise, and inconsistent operational procedures frequently cause National Anti-Doping Organizations to fall short of international standards, leading to non-compliance according to Efendiyev (2023). They also have to achieve a balance between financial and logistical challenges and transparency and creativity. This means that it is a competition between priorities. Although NADOs rely on self-reporting, tools such as ADLogic and the Code Compliance Questionnaire (CCQ) aid in evaluating compliance but may result in inconsistent results and delayed detection for issues, particularly when internal systems are lacking.

Besides lack of resources and misuse of staff power on the execution level, there are other challenges. For example, Gray (2018) mentions that despite the fact that many governments and organizations legally adhere to the anti-doping Code, in practice, compliance is hindered by a lack of technical competence. Gray mentions that a top-down regulatory system that is unable to meet the complex requirements of many national contexts, and lack of resources.

**Recommendations For Anti-Doping Compliance Initiative Improvements**

The goal of improving initiative effectiveness and ultimately, compliance with international requirements have been and probably always will be important. This brings us to monitoring and evaluations, which are essential to determine if education and doping prevention initiatives are producing the desired outcomes, such as greater awareness or fewer anti-doping rule violations (The Abstracts of the 43rd Annual Conference of the Australian Psychological Society, 2008). The authors argued that ongoing feedback loops between implementation and evaluations of anti-doping programs are recommended to increase the effectiveness of anti-doping initiatives and thus, the compliance with the Anti-Doping Code.

Conversely, Vasques et al. (2021) pointed out that the way compliance is implemented and tracked has a significant impact on how successful anti-doping programs are. Through an anthropological analysis of Brazil's anti-doping initiatives during the 2016 Rio Olympics, the research demonstrates that compliance was often reactive and politically driven, with the goal of avoiding international sanctions rather than establishing long-lasting mechanisms. The study then goes on to demonstrates that compliance initiatives may become insufficient and may lack genuine dedication to anti-doping principles in the absence of regular monitoring and organizational support. The legitimacy and effectiveness of anti-doping initiatives would then be compromised by this discrepancy between official compliance and real practice. This implies that creating long-lasting national anti-doping frameworks or systems rather than implementing anti-doping initiatives solely with the aim of avoiding international sanctions can increase compliance in a more sufficient, genuine, and committed manner.

Another instance of monitoring and compliance improvement would be anti-doping in the United Kingdom (UK). According to Batt (2011), UK national laws are in line with the Code, which are supported by structured monitoring tools such as risk systems, performance indicators, and certification from International Organization for Standardization (ISO). These systems guarantee transparency, direct program enhancements, and assist in exposing covert doping activities. The report also emphasizes that cooperation between governmental organizations, law enforcement, and sporting organizations is necessary for compliance, which goes beyond simple regulations. Batt also mentions that anti-doping initiatives gain credibility and influence when targeted testing and data-driven tactics are made possible by effective monitoring, more so when they are supported by organizational collaboration.

All in all, anti-doping compliance initiatives focus on ensuring that organizations and stakeholders uphold integrity and accountability, while complying with the World Anti-Doping Code through monitoring systems such as testing, reporting, and evaluation

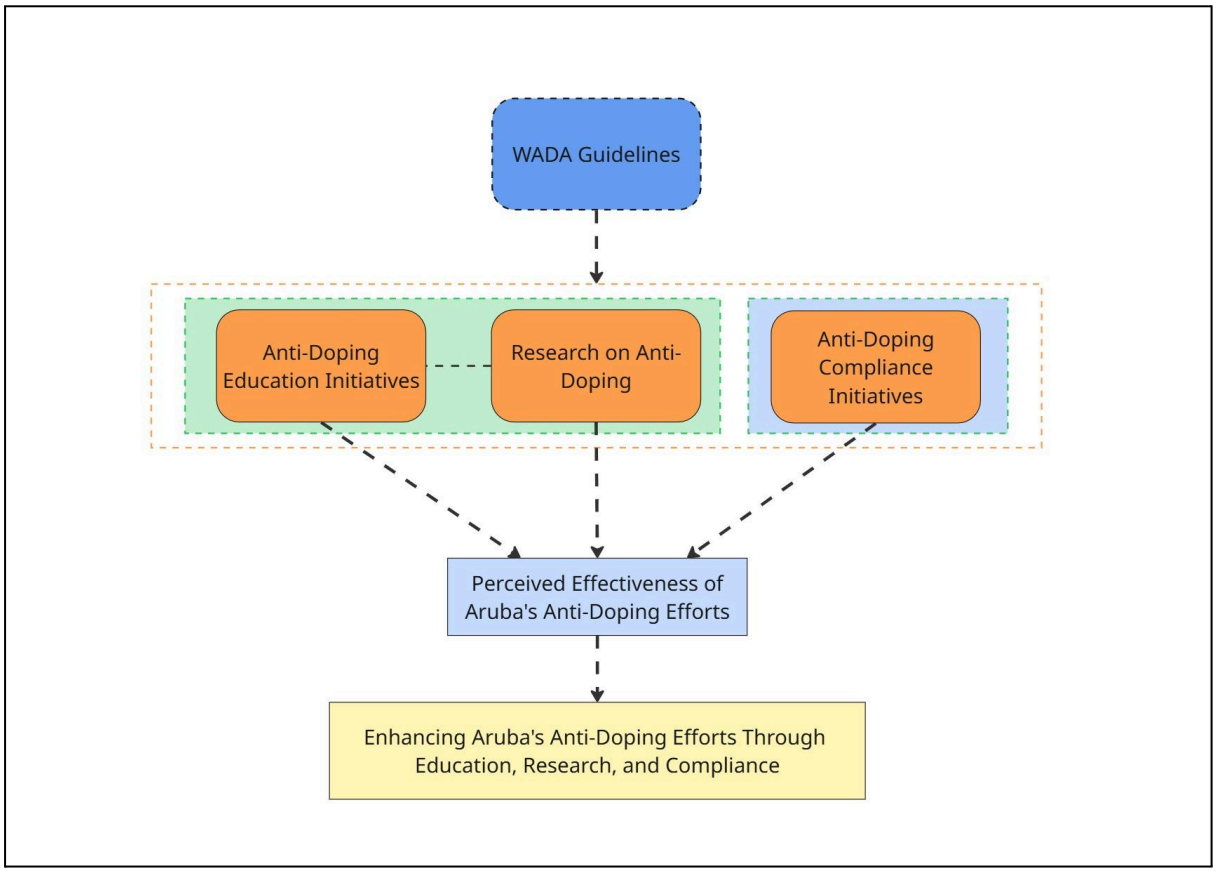
tools. Stakeholders generally support compliance efforts, according to the literature, but issues with scarce resources, rigid frameworks, and gaps between formal requirements and actual implementation still exist. Surface-level compliance rather than real adherence might result from issues including unclear responsibilities, inadequate capacity, and uneven monitoring. The literature generally states that improving monitoring systems, raising role clarity, and aligning anti-doping rules with Aruban context can improve the effectiveness of anti-doping compliance initiatives.

### 3.5 Conceptual Framework

The conceptual framework utilized to evaluate the effectiveness of Aruba's anti-doping initiatives according to athletes, ASPs, and sport organization representatives is depicted in Figure 3. It links the attitudes and perceptions of stakeholders to three important aspects, which are Education, Research, and Compliance. These aspects of anti-doping initiatives serve complementary purposes: compliance concentrates on monitoring and enforcing anti-doping rules, research develops knowledge, and education promotes doping prevention and awareness. The World Anti-Doping Agency's guidelines serve as the foundation for the framework, which has been modified to fit Aruba's particular institutional context (WADA, 2021).

**Figure 3.**

*The Anti-Doping Assessment Conceptual Framework.*


WADA Guidelines
Anti-Doping Education Initiatives
Research on Anti-Doping
Anti-Doping Compliance Initiatives
Perceived Effectiveness of Aruba's Anti-Doping Efforts
Enhancing Aruba's Anti-Doping Efforts Through Education, Research, and Compliance

The conceptual framework, which is based on WADA's international standards, the Anti-Doping Code, connects the three main concepts of Aruba's anti-doping initiatives: Education, Research, and Compliance. It starts by illustrating the connections and functions of Anti-Doping , Anti-Doping Research, and Anti-Doping Compliance within Aruba's institutional setting. Each concept plays a different but complementary role. Education raises awareness and transfers ethical ideals among sport stakeholders, research produces evidence to support programs and policy decisions, and compliance ensures that all stakeholders maintain accountability and adhere to the Anti-Doping Code. The framework then continues with a bridging layer of attitudes and perceptions on anti-, which affects how stakeholders interact with anti-doping initiatives. These three stakeholders are athletes, ASP’s, and sports

organizations. While skepticism or ignorance undercuts these efforts, positive perceptions increase voluntary compliance and program efficacy. Stakeholders' perception also help identify gaps in these initiatives from their respective levels, which leads to the final component. These perceptions among athletes and ASP's can include among others, trust in initiatives, awareness, sense of relevance, etc. For sports organizations, these perceptions may involve sense of relevance, lack of willingness, and skepticism.

The final component 'Enhancing Aruba's Anti-Doping Efforts Through Education, Research, and Compliance & Monitoring' represents the end goal of this framework facilitated through examination of all three concepts and the sport stakeholder perception on these, which also reflects the overarching goal of developing a doping-free culture based on WADA's objectives.

# 4. Methodology

## 4.1 Research Design

This research followed a qualitative research approach in the form of a case study research design. The reasons for choosing this research approach was to collect rich data, find insight on current anti-doping initiatives, draw from a combination of institutional perspectives, international frameworks, and policy analysis, and explore stakeholder perceptions. Qualitative research is a type of data collection and analysis strategy that focuses on words, images, and objects in order to use in-depth interactions with places and people in society to generate insights on specific issues from an inductive perspective (Bryman, 2021). This means that themes and patterns were identified through analysis of stakeholder accounts and documents, rather than through prior theoretical assumptions.

The research took the form of a single case study and Aruba's national anti-doping system was used as one bounded case. This choice is justified because the study's goal was not to make generalizable findings nor compare other countries, but rather to understand the implementation of Aruba's anti-doping initiatives as well as the perspectives of sport stakeholders surrounding this. The study looked at the execution and perceived effectiveness of anti-doping programs in the fields of research, education, and compliance, and evaluated them in conjunction with international standards created by WADA. The specific objectives of the study was to evaluate the implementation, highlight insightful stakeholder perceptions ranging from athletes to anti-doping organizations, and provide recommendations on how to enhance Aruba's Anti-Doping initiatives in the areas of education, research, compliance, and monitoring.

**4.2 Research Sampling**

The research employed a non-probability sampling approach, as it aimed to obtain rich, in-depth insights from stakeholders directly involved in anti-doping initiatives. Given the qualitative case study design and the absence of a comprehensive sampling frame of relevant actors in Aruba, probability sampling was not suitable. Within this non-probability approach, a combination of criterion sampling and snowball sampling was used. Criterion sampling ensured participant relevance by selecting individuals who met predefined criteria, including direct involvement with anti-doping efforts, level of sports involvement, and institutional affiliation (Bryman, 2021). Snowball sampling was applied by initially approaching a small group of relevant participants and relying on these individuals to recommend additional participants who met the study criteria, thereby facilitating access to knowledgeable stakeholders within the anti-doping landscape (Bryman, p. 379, 2021). Using snowball sampling, the researcher's initial sample thus provided recommendations for other individuals who could be approached and interviewed. Both sampling techniques are examples of purposive sampling.

Also, according to Bryman, the researcher chooses units of analysis based on their relevance to the research topic and samples to achieve their research goals and learn as much as possible about the phenomena of interest (2021). That was the case of this research because the targeted athletes, ASP's, and representatives of sports organizations had relevance to our research questions and topic, as well as the criteria's. This provided the researcher with potential participants who were relevant to the research.

There were a total of sixteen interviews conducted with sport stakeholders, all either falling under the category of athlete, ASP, or sports organization representative. six interviews were conducted with representatives of sports organizations, six were with

athletes, and four were conducted with ASP's. Some interviews were conducted either at the site of the organizations and some were conducted in a place of the interviewee's choice. The participants consisted mainly of eight females, and eight of which were male. Their age varied somewhat ranging from fourteen to sixty years old.

### 4.3 Data Collection

The data collection method used for this research was comprised of sixteen semi-structured interviews. The research instruments that was used for the research therefore were three interview guides for the three separate participant groups. Semi-structured interviews were conducted with sport organization representatives, athletes, and athlete support personnel. This was to gain insight from the stakeholders that promote and execute the anti-doping initiatives in Aruba, the athletes affected or targeted by these initiatives, and those who are directly involved with the athletes or sport organizations. This would therefore give a general overview of how each stakeholder group is connected and influenced.

There are three outcomes of data that are produced in qualitative research that were mentioned in Bryman; field notes, interview transcripts, and secondary data (2021). This research produced three types of data collected. Field notes were taken during the interviews. The reason for this is that many important parts of the interviews had to be noted to highlight the expressions and perceptions of the participants on certain topics. They were then used during transcription and data analysis to analyze to the fullest extent. The researchers also transcribed all interviews manually since the majority of the participants spoke Papiamento (not so readily available in online transcribing tools), and therefore was difficult to use a transcribing tool. Secondary data was also gathered from the websites of the sport organizations in Aruba such as the Olympic Committee's website for context in preparation for the interviews. Also, official international frameworks such as the Social Science

Research Package for NADO's was used to better understand certain contexts and terms regarding anti-doping initiatives and the research itself.

### 4.4 Data Analysis

In this study, the primary method of data analysis was thematic analysis. This method and framework involved systematically identifying, organizing, and interpreting patterns (themes) within qualitative data (Braun and Clarke, 2006). The interviews were recorded with consent via a smartphone and were stored in the smartphone. The data protection measures included: the prevention of distributing the data through any medium, deleting the data once the research was completed. The data was analyzed through the software 'Atlas.ti', which is a qualitative data analysis software. This was because time was limited for the data analysis, and the software provided a better overview and user-friendly analysis of the data. Text fragments that were relevant to the research questions were highlighted and given codes according to recurring and emerging themes. Similar codes were combined into more general themes when patterns became clearer. To make sure that essential phrases and context were preserved during interpretation, field notes were checked regularly.

To capture the intended message and the context accompanying it, the researcher re-read the transcriptions. This phase of the research, along with the organizing of emergent and recurrent themes was crucial for identifying and adjusting preliminary ideas and themes, as well as for connecting these with the main research objective. The reason that the researcher opted for coding through Atlas was that it saved time due to its user-friendly design. Relevance to the study topics and commonality throughout the dataset served as guidelines for theme development. The final themes were chosen as a result of their frequency in participant perceptions and their direct analytical insight into the research's objectives.

### 4.5 Role of Researcher & Research Ethics

Research ethics were carefully considered throughout all stages of this study to ensure its credibility and integrity. The researcher actively safeguarded participants from harm by ensuring voluntary participation, obtaining informed consent prior to data collection, and respecting participants' privacy at all times (Bryman, 2020). Before each interview, participants were fully informed about the purpose of the study, their right to withdraw at any moment, and how their data would be used, after which written consent was obtained (see Appendices A). Before signing the written consent form, the researcher explained the contents of the consent form to the participants and asked the participants if there are any uncertainties before signing.

To ensure anonymity and confidentiality, all interview data were anonymized partially during transcription (completely after adjustments) and completely during analysis. The researcher restricted the use of data strictly to matters relevant to the research objectives and avoided collecting unnecessary personal information. All consent forms, recordings, and transcripts were securely stored and was permanently discarded upon completion of the research. Throughout the research process, the researcher maintained a reflexive and responsible role by consulting with their supervisor and online sources when skeptical about research ethics, ensuring that ethical considerations guided interactions with participants and the handling of data at every stage.

### 4.6 Reliability and Validity

"Reliability is concerned with whether we would get the same results from a study if we repeated it under the same conditions," states Bryman. 2020. While validity mainly focuses on how results are interpreted, mainly how well researcher bias is reduced, how well

explanations are accurate within a broader theoretical framework, and how well observations are taken into account in relation to relevant contextual factors (Johnson, 1992). Additionally, Bryman noted that reliability is frequently used to assess the consistency of the indicators we develop for concepts (2020).

**Reliability**

Reliability in qualitative research is more about the consistency and dependability of the research process than it is about statistical replication. In this study, reliability was addressed by applying consistent procedures across data collection and analysis. These procedures included giving the participants the freedom and comfort of choosing their preferred interview setting, using ethical approaches uniformly for all interviews, and using the same coding logic and software for each interview. In order to ensure that issues concerning anti-doping education, research, and compliance were covered in every interview while yet allowing participants to elaborate depending on their experiences, all participants within their participant groups were interviewed using their respective semi-structured interview guide. All interviews were verbatim transcribed and supplemented with thorough field notes to maintain context, emphasis, and meaning in order to ensure consistency in data collection. A straightforward and structured coding procedure was used during analysis, and codes and themes were created and improved evenly throughout the dataset. To guarantee traceability between raw data, codes, and final themes, analytical decisions were documented throughout the coding process. Because each code in Atlas was associated with certain transcript quotes, the researcher could always go back to the original source material. When codes were merged, adjusted, or grouped into broader themes, these changes were noted in order to maintain transparency in how concepts developed. This made sure that the topics were still based on actual answers from the participants. The study thus improved the

reliability of its conclusions and showed that conclusions were drawn directly from the data collected by consistently linking interview segments to codes and themes.

**Validity**

Validity in qualitative research refers to the credibility and trustworthiness of the findings generated by the data (Bryman, 2020). Validity was addressed in this study by clearly explaining the purpose, scope, and voluntary nature of the research to each participant before the interview began. Participants' defensive or socially desirable reactions were lessened when they were informed of the study's objective, which was to assess Aruba's anti-doping efforts rather than their own performance. Additionally, they were ensured anonymity and confidentiality, which enabled them to freely discuss organizational barriers and challenges. This open communication made it possible for participants to offer honest and experience-based insights, which increased the validity of the information gathered.

Because interviews were conducted consistently and openly, participants were free to express their opinions in their own words without being pressured to reach preconceived notions. All interviews were translated and examined in conjunction with thorough field notes to increase interpretive credibility and keep interpretations firmly rooted in participant descriptions. The researcher repeatedly revisited the transcripts during the analysis phase to verify that emerging themes accurately reflected the meanings expressed by participants and were not taken out of context. Also, the study added to validity by carefully linking empirical results to recognized international frameworks and scholarly literature, guaranteeing that interpretations were theoretically and contextually grounded. The findings' credibility was further reinforced by regular evaluation of positionality and presumptions on the subject matter.

# 5. Results

This chapter presents the study's findings. The chapter is divided into four sub-chapters based on the four research questions, and each sub-chapter is further divided into three sections based on the three core concepts, which are education, research, and compliance. The first sub-chapter 5.1 presents the results on the current anti-doping education, research, and compliance initiatives in Aruba according to sportstakeholders. The second sub-chapter 5.2 presents the results on perceived effectiveness of the three anti-doping initiatives among sportstakeholders in Aruba. The third sub-chapter 5.3 presents the results on challenges affecting the three anti-doping initiatives in Aruba according to sportstakeholders. The fourth sub-chapter 5.4 presents the results on improvement recommendations for the three anti-doping initiatives in Aruba according to sportstakeholders. The first section of each sub-chapter presents the anti-doping education initiatives concept, the second presents the anti-doping research initiatives concept, and the third presents anti-doping compliance initiatives concept.

## 5.1 Current Anti-Doping Education Initiatives According to Athletes, ASPs, and Sport Organizations

### *Education*

The most significant education initiative other than the actual anti-doping rules themselves is the effort to raise awareness to both athletes and athlete support personnel on anti-doping rules and related information, and about the importance of clean sport. This education initiative involves structured educational offerings, including anti-doping workshops, seminars, credentials testing for coaches, federations' and coaches’ efforts to increase athlete and ASP awareness themselves. Notably, some athletes did not receive

anti-doping workshops online or at IBISA as done in the past. They instead received these sessions at school, more specifically, at EduCampus. EduCampus is part of the pilot educational program that targets schools. Aside from rules and the topic of clean sport, anti-doping workshops and seminars tackle other important topics surrounding doping, such as the biological and technical consequences of doping, the testing process, relevant personnel in this process, online resources for substance checking, contact persons for anti-doping related enquiries, Therapeutic Use Exemptions, and the whereabouts system. The anti-doping workshops, seminars, and interactive sessions are currently designed to target different groups, mainly regional and international athletes, meaning those who participate in any sport in a competitive sense at a regional or international level. But is also branching out to provide education to those who participate in sports in a more hobby-like sense as well.

Additionally, online courses by World Anti-Doping Agency are provided to certain internationally affiliated sports federations. These mandatory courses are required annually in order for athletes and coaches to represent Aruba and compete. Moreover, it is unclear if this applies to all internationally affiliated sports federation however, some of them have a website that contain the updated prohibited substance list as well as other relevant anti-doping and WADA information. Information on anti-doping can also come form ASPs and other athletes according to some athlete participants. Interestingly, one mentioned that they mirror the behavior of their peers when it comes to anti-doping behavior. According to Interviewee 2, *"just growing up in the sport, you learn the rules by just following them. So whether that be the coach is telling you or your teammates just following certain rules and you just follow what they do"* (Personal communication, 4 June, 2025).

ASPS are required to take an annual course that makes them eligible to coach and represent Aruba, as mentioned by some coaches. This is required by their respective internationally affiliated federation. These courses cover anti-doping, sports ethics, and safe

sport. Aside from courses, their international federations have accounts to their own website that give them access to the latest anti-doping information. Moreover, upon request, Arunado and CEMEDAR would host anti-doping educational sessions for coaches and sport clubs.

Aside from the many responsibilities that ASPs have, ASPs must also take anti-doping rules into consideration. To clarify, there are some anti-doping rules that also hold ASPs accountable, such as strict liability. This means that if they themselves are caught doping, then they could be sanctioned with a severity depending on the situation. Moreover, it is evident throughout the approached ASPs that there are no anti-doping rules for ASPs other than the strict liability currently being enforced in Aruba, or at least none that they are aware of.

In terms of ADRVs, (all) ASPs do not know how exactly these penalization criteria are structured or what the complete process of it entails. However, they do know what the consequences of them are through the educational sessions, word of mouth, and other sources. Also, in other areas that the ASPs are not familiar with, such as the detailed list of substances that are prohibited, they often approach Arunado to verify the information or they consult with the online resources provided to them.

As for organizations in regards to education, the organization Arunado and DCOs are the ones responsible for organizing the anti-doping educational workshops, according to many participants from all three participant groups. These workshops are evidently targeting all athletes, with the priority being (but not limited to) athletes who are going to compete abroad. Additionally, Arunado does collaborate with regional partners by sending DCO's for training abroad, as mentioned by participant 6.

Although one session might not be sufficient for a full understanding of what anti-doping entails, the anti-doping sessions attempt to give a solid basis. Important topics covered in the seminars included definitions of doping and anti-doping, Prohibited List

substances, supplement use risks, the Therapeutic Use Exemption (TUE) process, and testing protocols. Since it provides athletes with a fundamental understanding of important concepts, this introductory education is seen as beneficial, even if initial comprehension is limited.

There was also mention of more community-based outreach. To support continuing awareness campaigns, the team has made individual approaches to local lecturers and educators. This represents an attempt to broaden education through local networks, even though it is still in its early stages of development. Participants' feedback from educational sessions is collected and used to inform and enhance subsequent ones. The participant did acknowledge that there is still room for improvement in the areas of technical evaluation and content management. Athletes' experiences with testing and educational processes can also be uncovered through casual conversations, in addition to direct feedback.

As part of the Olympic cycle, which lasts four years and involves competing in ten to eleven international events, athletes are placed into a pre-selection pool. Following the identification of athletes, the education process also involves their support system, which includes parents, trainers, and other athlete support personnel (ASPs). The participant underlined that instructional materials are customized for the target audience. For instance, ASPs, medical staff, and other officials receive materials related to their roles, while athletes receive information about doping risks and testing protocols.

In order to increase awareness and accountability, efforts are also made to involve parents in sessions. Federations are expected to inform their athletes as part of the education strategy. Through COA's website and social media accounts, which frequently update the most recent forms, regulations, and lists of prohibited substances, educational initiatives are supported by online updates. Additionally, the participant noted that COA athletes must complete education, particularly in the period leading up to important events like the Junior Pan American Games.

Finally, as part of a larger value-based educational approach, ethical issues like match-fixing and sportsmanship are covered in the context of anti-doping talks. The participant underlined that important individuals that are a part of Arunado and the Doping Control Officers actively coordinate and lead these workshops, and that education continues to be a top priority within the Olympic Committee's strategic planning.

***Research***

For athletes in terms of research, there is virtually no evidence of anti-doping research being conducted in Aruba. None of the athlete participants reported encountering or witnessing any anti-doping research initiatives take place in Aruba. Some however have encountered anti-doping research abroad, and expressed a need for anti-doping research in Aruba.

As for ASPs, at the time this study was conducted, there were currently no published or planned initiatives for anti-doping research in Aruba, according to the ASPs. Additionally, there is recognition of the need for research to better inform anti-doping policies and educational initiatives among ASPs. They also find that collaborations with international organizations could enhance research efforts. These ASPs also consult Arunado when unsure of certain substances or products.

Sports organization representatives in regards to anti-doping research reported no current knowledge of any anti-doping research being conducted in Aruba according to all sports organization representatives, nor is there laboratory in Aruba for anti-doping research. There is also no involvement in international or regional anti-doping studies. Additionally, there is no collaborations on anti-doping research in Aruba. Interviewee 8 reported that Aruba does not presently conduct its own anti-doping research (Personal Communication, 11 June, 2025). However, they participate in regional partnerships, such as collaborative research

initiatives led by the Caribbean RADO with universities like the University of Illinois and the University of Birmingham, with an emphasis on education and effectiveness among regional athletes. This indicates how Aruba is supporting broader regional data collection and analysis initiatives despite the lack of a strong local research infrastructure.

However, no official local research is being carried out in Aruba at the time of writing this paper. Rather, the participant mentioned working with RADO and taking part in two global educational research initiatives run by the University of Birmingham and the University of Illinois. These research projects concentrate on assessing how education affects regional athletes. The participant was optimistic about future collaboration with local organizations, pointing out that the Olympic Committee and the University of Aruba are currently in talks about exploring potential partnerships. Research was thus identified as a critical area for improvement, particularly with regard to understanding the impact of education.

There is a lack of specific infrastructure such as labs or dedicated staff for independent research initiatives in Aruba itself. The limitation illustrates a broader challenge with local capacity to contribute research-based insights towards anti-doping policy and practice.

***Compliance***

Athletes reported that the most important initiatives would be the compliance of anti-doping test orders. The athlete would have to agree to be escorted by the Doping Control Officer to a dope testing location, or in the case of random testing, the nearest bathroom. This can occur randomly during training hours, outside training hours, and even in-competition. The athlete also has to fill in there whereabouts in the ADAMS application daily, and must therefore be present at the location that they put in the application. Failing to do so can result

in an automatic ban if it escalates to that. Athletes must also follow the rules in terms of reporting doping of all forms.

All athletes that were interviewed have attended at least one type of anti-doping educational session. Consequently, most of the athlete participants are aware and familiar with the Anti-Doping Rule Violation Process and anti-doping testing procedure, and some were familiar with the process of appeal when accused of unintentional doping. In contrast, a few of the of the athlete participants were not aware, or partially aware of the process of obtaining a TUE. They mentioned that they had no need for one and thus did not see the need of knowing how to apply for one. Conversely, Interviewee 6 mentioned that "I don't think stuff like that is really talked about here" when asked about the TUE (Personal communication, 4 June, 2025). They also mentioned that the TUE has many subsections and was somewhat complicated to follow. The athletes that were aware of the TUE process mentioned that they would have to approach COA to place a petition for a TUE, then COA would relay this to their respective federation and house doctor. Once obtained, the athlete would then need to have the TUE present with them at all times in case they are called upon to get tested. That way they can file an appeal in case they test positive for a doping test. Many athletes also stated that they are unaware of how the anti-doping initiatives and rules were monitored. Some did not understand the concept of monitoring initially and even after elaboration, could not answer the question and ended up diverting to another topic such as the testing procedures. Many athletes referred to dope testing as the monitoring of anti-doping initiatives and rules.

For one internationally affiliated federation, there was a new bylaw that was introduced that states that if an athlete participates in an event that encourages doping could suffer consequences such as a mild suspension. This is a new approach compared to Aruba's approach against doping, which is based on the basic definitions of doping.

Additionally, one athlete mentioned they have been tested before during their competition and were fully aware of the entire testing process, however, they have never had to report their whereabouts on ADAMS before the interview. This either indicates a gap in the testing and administration process or an exception to the norm.

As for ASPs, an important initiative that ASPs must comply with is being aware of what their athlete is taking. Although it is ultimately the athlete's responsibility as expressed by the ASPs, they also express that it is part of their duty to be aware of their athlete's substance consumption behavior. Additionally, a few ASPs mentioned that an important initiative is taking action when they witness any doping related activity. This meant that they must intervene and contact Arunado or CEMEDAR immediately. Another compliance initiative would be the selection process. This process involves listing the athletes as candidates for competitions abroad. This also includes ASPs such as coaches and physicians. This is to contact and/or hold the coach accountable in any case.

In terms of monitoring, some ASPs either do not believe that anti-doping is properly or completely monitored, or have never seen any monitoring initiative take place. In contrast, one ASP believed that the anti-doping rules and activities were monitored well but did not elaborate further. They did however mention something that aligns with the attitudes of the rest of the approached ASPs, which was "*We do not know what happens behind the scenes. They take the evidence and test, and you just have to trust them that they can do their job competently*" (Interviewee 13, personal communication, 18 June, 2025). Moreover, According to the ASPs, there are many doping tests being conducted in Aruba. However, some of them mentioned that many national tournaments and recreational competitions with monetary awards take place with no dope testing, allowing the opportunity of athletes taking advantage of this.

According to an ASP, athletes must approach the local central medical sports facility CEMEDAR to undergo an evaluation, interview, and form signing declaring that they are not to use any banned substances. CEMEDAR also gives the athletes advice on what substances they are allowed to use while also creating a profile of the athlete for documentation purposes.

Sports organization representatives claimed that dope testing is considered a compliance requirement of WADA as a priority area. This area is particularly in team sports as mentioned by participant 6 by saying: "*Team sports usually contain more issues, they are the main focus for target groups. There is a risk analysis that AruNado does to consider who in the testing pool receives the test*". additionally , as mentioned by participant 10, "*They go through an internal process under the Olympic Committee. They have games in which one must be classified to be able to participate*". It is mentioned that the testing targets are decided by WADA or international federations via order petitions.

Interestingly, it is mentioned that there is one small department that is responsible for compliance. They distribute information to the Lead DCO, for example workshops details. The Lead DCO then brings other DCO's to assist and in some cases to train newly appointed DCO's. Moreover, they represent Aruba in different areas such as the Caribbean Regional Anti-Doping Organization, and also represent Aruba during WADA conferences, therefore serving as Aruba's voice in both areas, while maintaining relevant networks that may benefit Aruba.

Also, it is mentioned that Arunado has direct contact with the people from WADA that are in Aruba. Similarly, international federations send Arunado their handbooks, rules, and requirements in preperation of games that will take place. In this case, DCO's must apply with a CV and proof of experience to be able to participate in these. Therefore, it seems that there is ample contact with relevant international organizations.

Athletes' rights protection is present according to participant 6. It is mentioned that "*WADA revises all documents well, especially the parts that involve athlete health and rights. It is expressed that everyone must comply and no one can jeopardize the athlete health or rights, nor progress*". It is apparent that athlete rights is as important of a topic as athlete health, but was not elaborated on. Furthermore, there seems to be no instruments or indicators used for the evaluation of Anti-doping initiative effectiveness other than anecdotal evidence in the form of the lack of noticeable positive doping test results, as mentioned by various representatives. Additionally, it is mentioned that there are no solid initiatives by the government specifically, in place to protect athletes' rights. However, the relevant sports organizations do evaluate workshop effectiveness via follow up feedback immediately after the workshops are over. The workshops are then adjusted based on the feedback. One example of this would be the increase in engaging strategies used in later workshops.

As mentioned by Interviewee 10 "*The subsidy that we give the federations has one regulation. They have to adhere to the requirements of this to be able to request subsidy. Now how that works with Arunado is that we have an article that references AruNado. More than that, we do not have*". It is evident that SSA is not directly involved in compliance, research, nor education in terms of anti-doping. Their main contribution is a subsidy toward AruNado and COA, and a paragraph in their subsidy requirements referencing Arunado in which states that federations must adhere to the requirements of Arunado to be able to request subsidy.

It is evident that Aruba makes use of the CCQ. This compliance measurement tool assists in the identification of any gaps and ensuring that all necessary documents and protocols are up to date, and includes the application of the seven international standards that are assessed in terms of up-to-date effectiveness using the questionnaire every two years. Interviewee 9 claimed that this is an extensive questionnaire with about 200 questions. Currently, there is just one person in charge of making sure Aruba complies with the Code.

Aruba's compliance monitoring is done through periodic self-evaluation through the CCQ rather than on a formal, regular or proactive basis. This is because the island lacks the personnel and infrastructure necessary to keep an eye on athletes and federations all the time, as mentioned by a various organization representatives. There is no internal capacity to start independent testing or enforce accountability measures, this is also because Aruba's competent organizations do not have authorization to enforce accountability measures within federations.

At the moment, neither a staff or a platform is available for standard on-site monitoring to evaluate the success of anti-doping initiatives. However, plans are underway to introduce Key Performance Indicators (KPIs). With the help of an intern, this system is expected to be up and running by 2025 or 2028. The participant underlined that implementing structured performance measurement would enhance strategic decision-making and long-term assessment.

To sum up, the main focuses of Aruba's current anti-doping initiatives is education and dope testing. AruNado, COA, and DCOs coordinate educational efforts through workshops, seminars, and online courses that educate athletes, federations, and Athlete Support Personnel (ASPs) about the rules, testing protocols, and clean sport values. Despite regional partnerships with the Caribbean RADO and foreign colleges, local anti-doping research is virtually nonexistent, even as these initiatives are slowly spreading to schools and recreational levels. WADA regulations play a major role in guiding compliance, which remains in effect through testing, ADAMS whereabouts reporting, and the Code Compliance Questionnaire. However, there is minimal enforcement and long-term accountability measures remain limited by a lack of clear procedures, irregular implementation, and limited resources, especially with regard to monitoring.

## 5.2 Perceived effectiveness of Anti-Doping Initiatives According to Athletes, ASPs, and Sports Organization Representatives

### *Education*

The significance of the educational sessions in influencing athletes' awareness and behavior was often brought up. Many recognized that anti-doping education enhanced their understanding of personal accountability, supplement risks, and substance regulations. After attending educational sessions, the athletes reported gaining more awareness on their accountability and responsibilities even when doping unintentionally, or being provided prohibited substances by ASPs or peers. Also, there was no change to awareness among veteran elite athletes, seeing as they have more time and experience with the anti-doping education and anti-doping in general, which meant to constant exposure to the anti-doping environment.

Meanwhile, athletes with less experience or of younger ages were evidently less knowledgeable on certain procedures and topics such as the TUE application process, ADAMS administration system, etc. Additionally, concerns were raised by athletes regarding the lack of tailored education towards certain age groups and overall level, particularly for those getting ready for international or regional competition.

Although, while one athlete commented that they were only annoyed by the repetitive and dull educational sessions, and others perceived a lack of demographic adaption, after their first doping test, others did report that the education sessions helped them develop a "thought process" regarding their consumption habits and offer more critical thinking while stimulating conscious decision making when it came to supplement consumption. This in turn stimulated critical discussions about substance use among the athletes, coaches, and family members.

Moreover, interactive, in-person workshops activities (such as trying out testing kits and playing educational games) were great for engagement and comprehension, while online certifications were perceived as tedious and uninteractive. While others noted that although repetition in instruction was necessary, it could be better structured. For example, a few, more experienced athletes would have liked to see more updates on anti-doping news, substance information, or the prohibited substance list. In regards to access to anti-doping information, the majority of participants reported that WADA's list and ADEL (WADA's online education platform) made information about prohibited substances easily accessible. However, some said that information on areas such as TUEs were still unclear or mildly difficult to understand or follow.

According to ASP participants, the anti-doping educational sessions have improved significantly over the years in terms of online resources, engagement, and transferring of knowledge. Interviewee 2 mentioned: *"Thank god there are more resources as athletes that you can use to research your medications, supplements, etc. Back then we didn't have these things. So then you used to just trust things back then"* (Personal Communication, 28 May, 2025). The majority of the ASPs find that the sanctions and the consequences thereof are initiatives that are highly influential towards athlete decision making.

Additionally, one ASP mentioned that it is also their duty to tend to any doping activities taking place. They mentioned that it is "Because it is my responsibility to see and tend to the issue of doping, or even if I have doubts, I must double check it" (Interviewee 3, personal communication, 28 May, 2025). They also mentioned that although it is the athlete's responsibility to be aware of what they consume, it is also the ASPs duty check and be aware of this. However, other ASPs have not exactly expressed the same sense of duty. They instead find that their duty lies mainly in the education of the athlete on these affairs.

Anti-doping education was perceived as crucial, according to all ASPs, particularly among coaches who must balance many responsibilities surrounding the athletes they train. To support this, Interviewee 4 mentioned: "For my needs of being the coach, in Aruba we need to fulfill a lot of roles. So having these workshops takes up a little burden from the coach" (Personal communication, 26 May, 2025)

Additionally, workshops were said to be very helpful not only for coaches, but also for athletes and their families. The effectiveness of education is greatly increased when parents are involved. This meant that more knowledge about anti-doping would circulate around households and peers seeing as they are also seen as influential actors in the anti-doping landscape. It was also mentioned that education makes athletes feel conscious and accountable for their decisions, including those involving the use of supplements.

Nevertheless, a number of participants voiced concerns with the accessibility and frequency of the current educational offerings. There are worries that only elite athletes receive an excessive amount of anti-doping education, excluding younger or less experienced athletes, young children, and even parents. Equally, strong support was expressed for more frequent sessions catered to certain audiences, as a one-time annual educational session was deemed insufficient. Arunado was perceived by some ASPs as struggling to stimulate athlete and ASP participation in educational sessions. This partially supports the fact that Aruba still lacks a proper structured approach to educational delivery, which was also claimed by some interviewees, despite these initiatives' success.

Sports organization representatives in Aruba perceived anti-doping education programs as crucial but still somewhat lacking among organization representatives. According to them, youth interest is noticeably low, despite the fact that coaches are generally seen as proactive and well-informed (for the most part). Some representatives noted progressive developments, including the use of digital tools such as online learning platforms,

which were claimed as contributing to a high number of certificate acquisition and athlete engagement. Despite the limitations presented such as lack of resources, anti-doping education has been perceived as developing positively and on the right path to proper anti-doping education.

Others representatives however, said the outreach was lacking, especially for parents, schools, and non-elite athletes. Some drew attention to the limited sessions and the challenge of reaching a large audience for these sessions. The ideal target outreach according to one organization representative, which was up to 40,000, which includes the general public, and recreational sports players outside the already targeted audience. Having mentioned that, the current anti-doping efforts are viewed as insufficient due to lack of resources among other limiting factors. Correspondingly, representatives perceived anti-doping education as late in terms of outreach. It is believed that the knowledge transfer and value instillment is limited due to the fact that anti-doping is not introduced in conventional school enough, and thus does not reach young potential athletes and young people in general as early as it should.

It became increasingly clear that organizations that were closer or more involved with anti-doping initiatives, at least in the sense of execution, were more aware of Aruba's anti-doping initiatives in general and what surrounds it. For instance, a representative from Stichting Sportsubsidie Aruba (SSA) was mainly unaware of many and the most recent initiatives of AruNado and COA in regards to anti-doping.

***Research***

This area received the least emphasis from athletes, where the majority did not express significant a perceived need for anti-doping research. Correspondingly, an athlete admitted that they were mostly unaware of any anti-doping research that were conducted out in Aruba. This kind of initiative may not even be taking place in Aruba, many claimed.

Additionally, according to another response, Aruba's small size might be an influence on the lack of attention or perceived relevance in international anti-doping research networks or even local research initiatives.

Due to there not being any research that has ever taken place in Aruba, the only perception ASPs have had was the perceived need for research to start being conducted. Interviewee 2 mentioned: "*I'm gonna say that in the year 2000/2001 they started, and now it's the year 2025, so I see it as the next step to start doing research in Aruba under the athletes"* (Personal communication, 28 May, 2025).

While there is no anti-doping research conducted according to the participants, there is however a perceived lack of utilization of potential research drivers such as The University of Aruba or other institutions. In addition to this, ASPs found the level of data collection to be insufficient, and some find it outright non-existent.

There were conflicting and generally limited opinions regarding the effectiveness of anti-doping research among sports organization representatives. It was challenging for some representatives to comment because they understood that they were not directly involved in or aware of any anti-doping research taking place in Aruba.

Some representatives were even unsure of the full extent of Aruba's anti-doping research initiatives. In contrast, some participants viewed Aruba's international ties, such as the presence of an Aruban vice-president in the Caribbean Anti-Doping Organization as a sign of competence and trust. Moreover, others claimed that there is a lack of research in areas such as public perceptions or doping behavior, which makes it difficult assess initiatives or come up with improvements. Also, the perceived lack of data on things like athlete numbers, substance use, and ASP involvement was seen as a barrier to effective planning and evaluation for research.

***Compliance***

Many athletes were conscious of their responsibilities, which included reporting their whereabouts and being aware that they might be randomly tested. Most of the athletes were confident that regulations were being appropriately implemented and monitored. Some even mentioned that both international and local testing processes are on par when it comes to their experience with the testing process. On the other hand, a number of athletes expressed criticism of Aruba's inconsistent anti-doping rule enforcement. For example, dope testing was never conducted during local recreational running competitions, such as the KLM marathon, and other Run & Walks that have monetary prize awards. As mentioned by Interviewee 14: "*It is an official race, you should have doping control there. Because let's say the person that broke the record or won the race and won 2500 dollars. If he was doped, nobody would know, and there are prizes to be won*" (Personal communication, 10 June, 2025).

Some mentioned unpleasant dope testing experiences. An example would be when one participant, even though they were not required to fill in their whereabouts, they were called in for a dope test two weeks prior to a competition. This in turn caused unnecessary pressure on the athlete before their competition. To add to this, interviewee 16 mentioned: "Remember that there are some athletes that are not full-time athletes. They work as well, and so, with these issues with coordination, it takes those athletes out of their routine" (Personal communication, 28 May, 2025). Others also expressed frustration with administrative processes, particularly with regard to the way regulations are applied near competition.

The athlete participants were asked about their perceived fairness on the execution of anti-doping initiatives in Aruba. Most athletes mentioned that these initiatives fairly executed but with minimal elaboration. some mentioned that the rules applies the same to everyone.

The one participant that viewed differently mentioned unfairness, but from another country, ultimately rendering the result unrepresentative.

In terms of perceived effectiveness in promoting accountability. Many athletes agreed that the fear of serious consequences following ADRVs promote accountability, even though others indicated instances where paranoia rose from the possibility of getting tested surrounding competitions. This created anxiety to those fearing they might test positive. Interestingly, the athletes that mentioned this, connected it with other athletes that were not properly educated, and therefore, did not know what to expect.

All ASPs acknowledged that the current anti-doping regulations are well-founded and clear. They underlined that no changes were necessary to the anti-doping rules. This indicated a belief in the relevance and effectiveness of the current framework. Some interviewees have also stated that Aruba is "on the right path," suggesting that coordination between federations, educational institutions, and governmental entities is the next step to developing a strong anti-doping system. This implies that certain mechanisms for collaboration were viewed as functioning properly or progressing effectively.However, it was noted that the participation of the Aruban government is still limited and thus more is required to truly improve anti-doping initiatives effectively.

In order to promote compliance, some representatives underlined that workshops and communication platforms help make sure coaches and athletes are aware of the rules. but was a bit lacking in the area of information sharing. These awareness-raising resources were seen as a benefit, and therefore it was deemed crucial to further develop these communication channels.

For sports organization representatives, it was believed that compliance initiatives' effectiveness differed. While some praised the government's participation through financial aid and the overall feeling that things were running smoothly, others perceived the lack of

reliable and objective data, and actual presence (via other contributions) as a shortcoming. Interestingly, while acknowledging that proper monitoring data is lacking, a few representatives stated that no news of doping is good news, suggesting that the lack of reported doping is viewed as success.

Moreover, some organization representatives perceived the sanctions were straightforward and fair, others commented on inadequate enforcement measures, pointing out that there was no actual system in place to keep an eye on clubs, federations, and other agents that can influence doping behavior, or ensure that rules were followed.

The perceived effectiveness of Aruba's anti-doping initiatives varies across each group. Although younger athletes believe that education is useful in increasing awareness about accountability, supplement hazards, and duties, particularly through interactive workshops, they have difficulty with comprehending or even knowing about TUE and ADAMS protocols. ASPs believe that educational initiatives contribute to the reduction of the overburdening coaching responsibilities and encourages accountability in general, but they also observe that adolescents, parents, and non-elite athletes have limited access to it in through a lack of awareness. Whilst organization officials acknowledge the advancements in digital technology, they believe that outreach is inadequate and slow. Research on another hand also lacking. It is the weakest area, according to all groups. None are aware of any anti-doping research taking place and there is minimal university engagement for research. While some participants express trust and contentness with anti-doping initiatives, some athletes express frustration about inconsistent testing, ASPs point to a lack of government coordination, and NGOs recognize the inadequate monitoring and accountability. However, education initiatives are generally getting better, but research is lagging behind and compliance slightly less behind.

## 5.3 Challenges Affecting Anti-Doping Initiatives according to Athletes, ASPs, and Sport Organizations

### *Education*

There was no mention of any challenges regarding access to anti-doping information whatsoever among athlete participants. Rather, most of the athlete participants view the lack of awareness as a main challenge to anti-doping. Some participants noted that athletes, mainly young ones, are more susceptible to doping behavior when not having the correct guidance, awareness, and education on anti-doping. They claim that back then, the issue of athletes also being more blindly trusting towards uneducated peers and ASPs, who offer them supplements or other products without knowing if these contain prohibited substances or not. The issue may have lessened over the years following the improvement of anti-doping education, however, it is still a major issue connected to sports culture.

Additionally, one athlete mentioned that the barriers lie within the federations. To clarify, the relevant information comes from either Arunado, CEMEDAR, or any other competent organization that promotes clean sport. This then reaches sports federations, and the further transfer of this important knowledge depends on the initiative of the federation representatives. Essentially, if an email with important information is sent to a federation and the one or two representatives do not open the email, then the information does not reach the intended ASPs and athletes. Interviewee 16 mentions: *"We rely on one person to open their email and also their initiative to spread the information"* (Personal communication, 28 May, 2025)

Despite efforts according to ASPs, there is a notable gap in early education, as many initiatives are not reaching younger athletes in schools. The need for more accessible and engaging educational materials, such as podcasts and online resources, has been highlighted

to improve outreach and effectiveness.A number of challenges and barriers became evident despite the belief held by some ASPs that anti-doping education has no major limitations or barriers besides the lack of awareness . For instance, a common problem is when athletes, especially young ones try to speed up their recovery from injuries. Instead of taking the necessary time to rest, many athletes try to resume training too soon, sometimes in as little as one or two days, even though it may take them up to six days to recover, as perceived by ASPs.

Despite the existence of competent organizations such as CEMEDAR that offer guidance to athletes regarding their mental and physical health and supplement use, some athletes faced challenges following the medical advice of CEMEDAR, particularly when they have a strong desire or face pressures to keep training. Additionally, g aps in communication between coaches, physicians, and therapists were also voiced by ASPs, and these can affect choices about training and recovery for athletes. When it comes to minors, parental authority may take over expert advice, and thus some parents may insist that their kids keep training even when it was advised that they should take a break. Supporting this, interviewee 2 mentioned: *"But then again, if you are talking about a minor, the parents can just say "just let them train anyways". So at the end of the day we do not have much say in it"* (Personal communication, 28 May, 2025).

Some ASPs claimed that the athletes spoke multiple languages, indicating that language was not typically viewed as a barrier to education. Likewise, others pointed out that a large portion of the anti-doping information that was readily available is in English. However, these included complicated medical jargon, particularly on websites like Global DRO when it came to the names of substances. This meant that y ounger athletes may find this challenging to comprehend these without the proper guidance. It was mentioned by nearly all ASPs that when providing education, age must be taken into account and parents

must be involved. Essentially, not catoring anti-doping information toward the targeted age group would negatively impact knowledge transfer, and failing to involve ASPs such as parents would hinder the development of the culture surrounding clean sports and thus fails to shape their thoughts more into a clean sport directed manner.

Moreover, many coaches are unaware that they may request anti-doping organizations to assist in organizing sessions, are unsure of where to find anti-doping education resources. People with ties to the Olympic Committee may have better awareness, but others who do not, depend on help from peers or word-of-mouth.

Other challenges include the over-reliance on individual coaches or commissions to organize sessions and the shortage of personnel to support this educational initiative and other initiatives in general. The Athletes' Commission makes an annual effort to organize anti-doping workshops, but federations other than the more active ones seldom attend. Only 8 federations out of 24 took part in the most recent workshop. This implied that either the athletes do not always receive information and that it frequently stops at the federations, or attendance is not encouraged within the federation and sport clubs. Furthermore, federations are voluntary organizations, and this lack of official paid system leads to uneven anti-doping education prioritization. ASPs perceived that there was a lack of federation effort in sending out anti-doping information to athletes even.

Despite the availability of tools like Global DRO, awareness about them is limited. Some ASPs only became familiar with these resources during the workshops . Even so, they voiced doubts about the accuracy or reliability of the information offered. Essentially, some ASPs doubt if the resources are updated to which they would be informed if certain substances and the amount is permitted in or out of competition. Interestingly, some ASPs believed that there were no significant obstacles to education. While some argued that

terminology and complexity continue to be barriers, particularly for younger or less experienced athletes, others thought that athletes were receiving enough information.

There have been numerous reports of challenges with educational initiatives among the sports organization representatives. Engaging young athletes was a recurrent theme, especially given the technical and medical nature of anti-doping content. Sessions frequently failed to keep participants' interest, particularly when the material was not tailored to their age or level of knowledge.

According to the organization representatives, Many athletes and ASPs misinterpreted the rules. For instance, they mentioned that pre-selected athletes thought they were exempt from testing because they were not Olympic athletes under COA. Additionally, the educational session timeslots were limited (usually 1.5 to 2 hours), which limits the depth of the content to only three to four fundamental topics that could be covered sufficiently. This contributes thus to the lack of awareness as illustrated with the pre-selected athletes.

Furthermore, there are no official instruments or indicators for evaluating the effectiveness of education, and due to a lack of funding and human resources, only one official person oversees all aspects of operations, from execution to content. Additionally, reaching the government and schools is difficult, and some ministers are uncommitted, which delays approvals or pilot projects.

***Research***

The main challenge in regards to research, would be to gather enough resources to even start conducting research, according to athletes. For instance, one athlete participant mentioned that there aren’t enough tests conducted to get sufficient information for research. To add to this, another participant mentioned that research requires funds, and that there are

many other areas of research in Aruba that require funds as well. Interviewee 16 goes on to say: *"Every research has its price"* (Personal communication, 28 May, 2025).

Many ASPs found that the mildly uneducated sports culture poses as a significant challenge. Even though athletes are praised, long-term development and evidence-based practices aren't properly recognized or given priority. Both the general public and some segments of the sports community, including the government, are affected by this lack of a research mindset both directly and indirectly.

Another one of the biggest, and arguably the biggest challenge is funding. ASPs highlighted that funding is necessary for research, including the capacity to appoint experts to carry out significant research. Nonetheless, it is believed that government support is insufficient, which hinders the development of a comprehensive understanding of Aruba's sports landscape. This also means that It is challenging to implement a research-driven anti-doping strategy without specialized funding.

A structural issue is also evident. Despite Aruba having a formal compliance platform, it lacks a national anti-doping research commission. At the very least, Aruba lacks research initiatives from its compliance platform. Progress remains hindered by this lack of institutional support.

Additionally, the willingness of stakeholders and coaches to take part in research is another barrier. ASPs pointed out that because of taboos in particular sports, some coaches might refrain from sharing sensitive, yet relevant information on particular subjects. This "selective openness" impacts may thus negatively impact the representativeness of any data collected, or perhaps it may keep future relevant research from giving a good overview of what is being researched.

According to some ASPs, there is a lot of false information about supplements and drugs, not only among athletes but also in the general public. This supports the need for

additional anti-doping research in order to disprove any myths and increase awareness. Likewise, others acknowledged that research and education are just not given priority. Development is further stalled by the fact that many people are only interested in watching games and are unwilling to devote the time necessary to learn about anti-doping. in interviewee 12's words, "Many people may only want to see the games and that's it, they probably would not have or make enough time to educate themselves" (Personal communication, 18 June, 2025)

Lastly, a lack of initiative and human resources was mentioned by one ASP as a factor in the lack of research. Simply put, not enough effort is being put into starting and maintaining worthwhile studies, partly due to the perception that it would take great effort, and the lack of individuals qualified or willing to help shape such initiatives contributes to the issue.

All sports organization representatives concurred that there is little to no formal anti-doping research in Aruba, and some expressed dissatisfaction at the lack of local data. Also, instead of scientific studies, the majority of research references were restricted to student theses. Other major challenges include staffing, funding, and expertise issues according to the organizational representatives.

Furthermore, although it was acknowledged that research is required to comply with international anti-doping frameworks from WADA, Aruba is having difficulty complying with these. Few people are capable of directing such initiatives, and there is currently no system in place to support or finance them. This means that there is a lack of coordination and collaboration, especially with the University of Aruba, even when there is interest.

Some organizational representatives recommended research studies be conducted on not only elite athletes, which are the logical choice, but also people that do sports or exercise

recreationally. Moreover, there is currently no system in place to collect data on supplement use, doping frequency, and athlete progression.

Lastly, it was determined that a major research and practical gap was the absence of legal or medical expertise, such as sports lawyers or doctors with knowledge of anti-doping. This lack of expertise may be the missing piece that can bridge the gap between unaware athletes, and conscious decisions on supplement use.

***Compliance***

In terms of compliance, there are a few challenges mentioned by athlete participants, the most significant challenge would be the lack of resources required to do the activities that ensure maximum compliance. According to the athlete participants, the main thing that was mentioned was the lack of dope tests being conducted in Aruba. They mentioned that the lack of dope testing being conducted in Aruba reinforces the belief that athletes will not get tested anyway, and therefore will be less inclined to practice due diligence, promote clean sport, and proactively seek anti-doping information.

Challenges in the administrative aspect. One of them is a lack of consistent notification on the whereabouts deadline. To illustrate this, interviewee 7 mentions: "*And I think that's one thing that really lacks here in Aruba, is that they don't inform you of, hey, remember, the deadline is coming up".* (Personal communication, 4 June, 2025). Although the participants are aware that these are their responsibilities, follow-ups are considered helpful on maintaining compliance with the anti-doping rules on a significant level. This is more prominent among athletes who have a very busy schedule, a job, school, or other heavy responsibilities. Correspondingly, the athlete participants found that the general anti-doping rules are fairly straightforward and therefore did not experience any challenges following the rules in themselves.

The ignorance involving lack of due diligence, as mentioned earlier, also takes place in the lack of effort that athletes place when practicing their due diligence. For example, certain rules or athletes' rights consists of multiple pages worth of information, which is viewed as tedious and time-consuming. Interviewee 13 best illustrates this by saying: *"If you have to know all the information of all of you're rights and responsibilities, you might go on the page, but there are like 10 pages on your rights and I don't think an athlete would go through all of that"* (Personal Communication, 11 June, 2025). What interviewee 13 says aligns significantly with much of what the other athlete participants express.

A lack of proper enforcement mechanisms is also partly the reason why anti-doping regulations are difficult to comply with. According to one ASP, their affilitated federation has no policies that require ASPs to organize workshops, follow up with athletes, or monitor substance use. This means that no one is being held accountable for the lack of these crucial resource provisions. Also, the lack of institutional oversight means that ASP and athlete compliance is largely dependent on individual effort. To illustrate, Interviewee 5 mentions: "*We don't have rules. There is nothing stated in the Federation, nothing in national level. There are basically no rules*" (Personal communication, 26 May, 2025).

Concerns were also raised by coaches regarding their actual level of control. Despite efforts to raise awareness, the decision to comply with the rules are dependent on the athletes and, in the case of minors, their parents. This is a noteworthy finding because parents, if uneducated about doping, its consequences, everything that concerns anti-doping, can jeopardize the athlete's health and compliance. Correspondingly, although coaches can give advice, it's unclear if athletes will heed it, particularly during international competitions when temptations, false information, or other influential factors might be more common.

Confusion regarding compliance usually only occurs with athletes who are ignorant of particular prohibited substances, according to cerain ASPs. All the while all ASPs expressed

no significant doubts regarding their own understanding of the anti-doping rules. Several actually stated that they had no problems adhering to anti-doping regulations, claiming that they are just a natural part of their professional lives. Additionally, it is believed that coaches have a strong duty to be on alert, and that ongoing education is essential to educating athletes and support staff. One recurring problem, though, is the challenge of consistently monitoring athletes for use of prohibited substances. This is especially concerning when these substances may be used for the purpose of recovering from injuries or for other medical purposes.

Some challenges with compliance were characterized by sports organization representatives as financial, cultural, and structural. For instance, the majority of organizational representatives acknowledged that anti-doping regulations are in place, however they believed these are not well enforced. Particularly for federations that do not actively participate, there is no adequate monitoring system nor accountability enforcement measures.

In terms of testing, there aren't many doping control officers (DCOs), and many are still undergoing training. The unpredictability and reliability of testing are limited because DCOs must manually track schedules through clubs without informing athletes because not all athletes are required to submit whereabouts through ADAMS. Some ASPs also noted that athletes generally don't know who gets tested, and some of them refuse tests because they believe they are exempt as mentioned in the previous sections. These misconceptions have led to sanctions, indicating deficiencies in protocol communication and compliance education (or perhaps a lack of defined priority thereof.

Additionally, there is a lack of fulfillment of federation responsibilities. Numerous federations fail to onsistently communicate with important anti-doping or medical organizations. On the topic of communication, some organizational representatives acknowledged that they hadn't met or spoken with AruNado management because of time or

workload constraints. This limited communication between relevant organizations contribute to limited future action taken in terms of compliance. Without this type of communication, ideas can not flow, nor can current regulation and initiatives be discussed or reviewed in-person.

One recurring theme was financial limitations. Organizations in this area frequently lack the resources necessary to guarantee appropriate compliance, from testing expenses to staff capacity. While some positions are volunteer-based, others claimed that even small increases in yearly subsidies could be beneficial. Also, a lot of participants find that anti-doping and sports are not given priority by the Aruban government. To add to the theme of financial limitations, it was mentioned that many national federations cannot afford the four hundred to five hundred dollar cost price of a single doping test. It was pointed out that Aruba does, however, benefit from funding sources, such as UNESCO and SSA funds that Arunado coordinates.

In summary, Aruba's anti-doping initiatives in compliance, research, and education are challenged by significant barriers across all three participant groups. According to athletes, access to guidance is negatively affected by low awareness, particularly among young athletes, and poor information transfer from federations. ASPs highlighted limited early education, low federation engagement, inadequate personnel, and lack of interaction between coaches, physicians, and parents. Sports organization representatives acknowledged a lack of government or federation involvement, short sessions, technical content, and limited outreach. All groups concurred that research is almost nonexistent because of a lack of resources, specialists, perceived relevance, and coordination. Also, ASPs emphasized that limited openness from interviewees and generally false information further limits research. In terms of compliance, organizations highlighted financial limitations and inadequate

cross-organizational communication, athletes indicated inconsistent follow-ups from federations and coaches, and limited dope testing taking place, while ASPs observed a lack of positive parental influence and enforcement.

## 5.4 Improvement Recommendations for Anti-Doping Initiatives According to Athletes, ASPs, and Sport Organizations

### *Education*

There are many recommendations that were provided by the athlete participants, such as giving anti-doping educational sessions to athletes at all levels, as well as provide the relevant online resources to these athletes. Notably, it was also recommended by the athletes that more educational session be given at more schools and more often. In like manner,was mentioned that educational sessions should also be provided to athletes at the youngest possible level so that they can familiarize themselves with the material as early as possible. Correspondingly, it is important that young athletes know what their rights are because dope testing can include anyone at relatively any age as long as they are in the testing pool. For example, young athletes should know that they are allowed an adult or guardian to serve as a chaperone during testing.

In terms of educational sessions, all of the athletes agree that these workshops must become more interactive and adapt to the audience in order to capture their attention and get them to engage in discussion. Also, it is of the utmost importance that the audience interact with the testing kits and practice the order in which the procedure goes according to participants. Even though the DCO explains the testing process in real time, it is beneficial for the athlete to know the steps already. Another recommendation was that Arunado and COA should require athletes to attend at least 2 anti-doping workshops prior to going abroad for a competition. This is to ensure that they have a solid basis for anti-doping knowledge. In

addition to this, it was recommended attendees hold a meeting with their team or peers to discuss information and lessons learned from the sessions so that everyone in the team is aligned with Arunado's teachings. They also placed a strong emphasis on improving connectivity and engagement in education. Interactive sessions, like practicing how to check supplements online, were more interesting for athletes than lengthy lectures. As a matter of fact, short tests with rewards, use of videos, and smartphone apps that accommodate today's digital learning styles were among the suggestions.

When asked what information platform athletes worked best with and prefer, the majority mentioned that social media through Instagram, and Facebook would probably reach them faster. By utilizing social media platforms for the spreading of anti-doping information, it creates the opportunity for the target audience of anti-doping initiatives to openly and effortlessly share this with others. This is work that is done for the anti-doping organizations.

Interestingly, a participant suggested that there should be a centralized athlete database so that ahtletes can contact COA or Arunado for relevant anti-doping affairs. This way athletes are not limited by the fact that they have to rely on one person to answer an email and pass on crucial information.

After many ASPs emphasized that the content and delivery of current anti-doping education frequently fall short, many proposed sport-specific workshops that addressed substances frequently used in sports that they affiliate with. They expressed uncertainty about what exactly qualifies (the specific substance, and the amount of it) as doping. Therefore, inorder to better relate to more real-world situations, they suggested the utilization of more real-life case examples, particularly older ones. Moreover, the late timing of workshop invitations was one frequent source of discontent. It is challenging to attend when notice is given just a week or two in advance. In order to plan appropriately, ASPs needed a minimum

of one month's notice. This is so they can adjust their schedules accordingly, with minimal frustration prior to competitions.

Conversely, ASPs thought that since younger athletes are impressionable and so, frequently imitated what they observed in their surroundings, they recommended that education start earlier around age 11. Parents should also be included in educational initiatives since they were also considered to be important influencers in the young athletes' lives.

Interestingly, concerns regarding athletes' mental health were expressed by a few ASPs, who suggested that emotional problems like depression or frustration can occasionally be the root cause of anti-doping rules. More specifically, the consequences of ADRVs. For ASPs, it appeared to be regarded as essential to have access to sports psychologists. while some of them believed that there were no current sports psychologist in Aruba. This illustrates that there should be either more sports psychologists present, or there should be mention of this in the anti-doping educational sesisons. Moreover, with crucial information shared with coaches as needed, these experts could provide athletes with private support and assist them in making better decisions.

While there already is an anonymous tipline for whistleblowing in Aruba, some ASPs mentioned that an anonymous tipline for athletes specifically for information gathering would be beneficial. This could serve as a way to gather concerns discreetly while also generating valuable statistics. Workshops could then be tailored to frequently asked questions from these calls. To support this Interviewee 2 says: *"I suspect or think that there could be kids or other people that do feel ashamed of asking… or like athletes or parents… So something like that would be great to gather more information and see what the concerns are"* (Personal communication, 28 May, 2025).

Finally, ASPs believed that education should extend beyond athletes. Meaning, there should ne better coordination between federations, COA, and other organizations, as well as increased outreach to communities, parents, and schools. Education would need to be ongoing, relevant and widely available rather than occurring only once a year.

The introduction of anti-doping education from an early age, beginning in schools and even involving parents, was the most common mention among organization representatives. Representatives underlined that establishing clean sport values at a young age contributes to the development of ethical conduct. Correspondingly, an interesting suggestion was to re-introduce Information booths hosted by ASU at certain sporting events events, which were recognized as successful instances of raising awareness early on.

Furthermore, content that is youth-friendly and/or tailored tailored toward certain age groups was also among the popular recommendations that were mentioned. In the current digital era, education should be brief, clear, and engaging for young athletes. Representatives recommended short videos or content resembling gaming platforms for younger generations accustomed to fast-paced media, which are more captivating than traditional workshops.

More frequent workshops and weekend information sessions are undoubtedly suggested. Also, a nnual anti-doping sessions, according to some, are inadequate and do not effectively engage athletes as much as anticipated. Workshops must have an emphasis on real-life situations that athletes might encounter, like how a doping test takes place or what occurs if a test result is positive. It was thus recommended to adapt content to the audience, much like the example of how athletes train for the Olympics with specifically catered training.

Another recommendation was that education should go beyond in-person sessions. This means that there should be utilization of m obile apps, social media, and online videos, which were regarded as efficient and quick ways to raise awareness. In light of this, m any

emphasized that videos are far more effective than lengthy, monotonous lectures and that social media platforms should be used to connect with coaches and athletes, and perhaps also parents. Not every participant, though, felt that additional platforms were required, but thought that the resources were available and adequate, whereas execution was where the issues lied.

Participation in educational initiatives is should be required from every relevant stakeholder, including coaches, sports federations, and government organizations like IBISA. All of the participants agreed that it is important to raise awareness of anti-doping issues on a broader scale. This includes acknowledging the relatively unrecognized AruNado and similar organizations. Conversely, some suggested educating athletes and coaches about the consequences of doping by presenting real-life cases for example, medals that were confiscated from athletes years after competitions because of retested samples that turned up positive.

***Research***

The majority of the athlete participants found that the first step to introduce more anti-doping research in Aruba essentially lies in the awareness of it and its attraction. Meaning, athletes, students, and those with an affinity with sports' interests should be stimulated. This means bringing up the topic more often and indirectly, this will stimulate more discussion on the topic. Also, in regards to the challenge of not having sufficient data and research, participants also recommended that Arunado and/or COA start off with simple, short, and convenient questionnaires. This method allows for quick provision of data and perspectives from the athlete, and effortless data collection from the organization. As interviewee 16 mentioned: *"To attract athletes to be more involved in research, you need to be more direct or involve more subtopics as sections, instead of doing a very long*

*questionnaire or interview"* (Personal communication, 28 May, 2025). The participant also commended this research's approach, which is gathering perspectives and going from athlete to athlete. This approach also provides rich data that can create a base for future research.

According to ASPs, one of the main obstacles to Aruba's anti-doping research is funding. They pointed out that research is expensive and requires a lot of resources to be conducted effectively. Additionally, they noted that not all coaches are not willing to talk openly about certain sensitive topics. Because the topic of doping remains sensitive in many sports (especially among athletes and ASPs that are preparing for international competitions), the quality and honesty of the data gathered would be negatively affected. As one coach stated, it is difficult to generate research that accurately captures the reality of Aruba's sports scene without a strong foundation of open-ended discussion. To best illustrate this, Interviewee 2 mentioned: *"Not every coach is open to talk, or is going to be honest. Because there are some taboos in certain sports, and some coaches are open to talk about certain things, and certain things they are not"* (Personal communication, 28 May, 2025).

ASPs stated that they would like data that they can use, like the frequency of doping, the substances used, and the reasons behind violations. Coaches might adapt their strategy and make well-informed decisions with the aid of this kind of insight. All the while, some suggested starting with small, simple research, such as monitoring athlete behaviors related to substance use. Others proposed using research from other more developed (in the anti-doping sense) for context-comparison or as benchmarks. Additionally, some suggested collaborating with academic institutions to improve the structure and goals of research.

The lack of research in Aruba was a major topic among the organization representatives, especially with regard to substance use and athlete behavior. Many emphasized the need to investigate not only professional athletes but also gym-goers and recreational athletes, where there is a suspicion of prohibited substance use but little to no

documentation. Moreover, they recommended gathering more concrete statistics, like the number of anti-doping tests performed each year, the frequency of positive tests, and the trends in supplement and medication consumption. These can in turn benefit educational efforts, as well as policy implementation.

It was recommended to compare research from advanced countries and then adapt the results to suit Aruba's context. Conversely, a few representatives highlighted the opportunity to work with the University of Aruba and engage students in research related to anti-doping. attracting interested people, establishing research committee, and identifying key research areas are all essential steps in regards to the future of anti-doping research according to many participants. Coincidentally, one participant even stated that a strategic plan to establish research priorities currently being developed. Correspondingly, it was believed to be beneficial to conduct research on athlete attitudes, decision-making, and social influences on doping. Henceforth, it would be easier to develop strategies if there was a better understanding of the psychological and cultural factors that influence substance use in Aruba.

***Compliance***

Some athletes recommended that federations follow up more with athletes on whereabouts deadlines, and that Arunado inform athletes if they are in the testing pool well before their competition. In terms of testing, athletes gave straightforward recommendations, such as increasing the number of dope tests conducted annually. As mentioned by interviewee 5:*"So I would say for every athlete, the more you get, like everything in life, the more you get tested, the more you know"* (Personal communication, 23 May, 2025).

Also, a few athletes mentioned that although testing is randomized, there should be better timing when it comes to approaching athletes for these dope tests as not to disturb the

concentration or routine of the athlete. An example of this would be testing during competition but more specifically, when the athlete is warming up, or is about to perform.

Interestingly, a participant recommended that Arunado and SSA place a minimum requirement for federations where they must organize one or two anti-doping sessions annually to receive a complete or a partial amount of the subsidy they receive from SSA.

Regarding the topic of recreational competitions lacking testing, a participant also mentioned that perhaps Arunado can collaborate with institutions or organizations that organize recreational to promote anti-doping, and perhaps raise sufficient funds to cover two or three testing kits. This creates the opportunity to stimulate competitiveness.

ASPs had a clear understanding of the areas where anti-doping regulations are not being followed and how to address them. Many coaches emphasized the importance of appropriate policies. At the moment, formal requirements are clearly lacking. They suggested that policies be made more explicit and actively enforced, not just on paper. To give a clear example, the requirements for receiving subsidy from SSA gives mention to Arunado, but not in great detail. This also covers the regulations pertaining to athlete protection and the shared responsibilities of athletes, ASPs, federations, and national organizations on combating doping. The fact that some national recreational competitions lack anti-doping checks was another issue brought up. To promote accountability at an early age and within the sports community, ASPs recommended conducting testing at these events, particularly in sporting events where substance use is frequent.

Lastly, ASPs concurred that Aruba requires a larger and more active anti-doping commission. To effectively implement policies, monitor compliance, and increase awareness, more committed individuals are required. According to an ASP, stimulating everyone relevant would already place us in a significant step in the right direction. As interviewee 12

put it, *"Making people curious enough to check for updates or to self-educate is the first step"* (Personal communication, 18 June, 2025).

Sports organization representatives found that there should be a platform and specialized staff are in place to provide regular monitoring for athletes and federations. Conversely, many participants pointed out that there should be more government involvement seeing as though Aruba is a signatory to the UNESCO 'Convention Against Doping in Sports' and receives funding. This means that there could be resources that could be used for the making of a platform to start with. Also, stricter anti-doping rule enforcement and a more equitable implementation of accountability measures are essential not only for athletes and ASPs, but also for federations and national authorities.

A need for stricter rules and regulations were repeatedly brought up especially to guarantee that anti-doping measures are included in national recreational sporting events. Despite competing in popular competitions like the Aruba Bank Race or KLM running events, some representatives noted that local athletes probably never be tested, whereas international athletes are regularly tested.

Another significant finding was that representatives stressed the necessity of improved communication between organizations and relevant stakeholders, like AruNado, in order to improve coordination and compliance. It has been reported that many members of the community, including coaches and athletes, are unaware of AruNado's existence or capabilities. In order to promote greater alignment and understanding, participants suggested raising awareness of AruNado's presence and role, not only the awareness of anti-doping related affairs.

Lastly, it was recommended that relevant stakeholders get together to cooperatively review and adjust anti-doping regulations to make sure everyone is aligned surrounding the anti-doping landscape. By doing this, federations, governmental organizations, and sports

organizations would all play a role in ensuring compliance and bridging the gaps between policy and practice.

To sum up, all participant groups suggested a number of adjustments to Aruba's anti-doping initiatives in the areas of education, research, and compliance. Athletes proposed a centralized athlete database, social media outreach, case-based educational material, and more frequent, interactive sessions, and young athlete-catored workshops, and for anti-doping education to start in schools. ASPs recommended better scheduling of sessions, digital tools, mental counseling from sports psychologists, early anti-doping education (around age 11), sport-specific sessions, involvement from parents, and an anonymous tipline for anti-doping information. Also, organization representatives recommended short films, social media usage, required stakeholder participation, and public awareness campaigns. Regarding the topic of research, athletes suggested the use of short and attractive surveys for research, ASPs called for collaboration from universities, funding from organizations, and openness from coaches, and organizations emphasized organized data collection and research on attitudes and doping behavior. For compliance, organization representatives highlighted the need for monitoring platforms, support from the government, and unified regulations. Athletes called for more tests and clearer communication, while ASPs wanted more robust rules and more testing.

# 6. Discussion

Aruba's anti-doping initiatives, the effectiveness of current anti-doping education and compliance initiatives, as well as the challenges that they face and the methods athletes, ASPs, and sports organization representative suggest to overcome them, were all carefully examined in this study. The researcher will discuss the data gathered for the study in this chapter thoroughly. The researcher will also evaluate the newly acquired information critically and compares it with findings from the existing literature. The objective of this chapter is to focus on the research findings' similarities and differences with the literature used in this study. Furthermore, any new themes that emerges which enrich the analysis, will be discussed. Lastly, a sub-question will be addressed at the end of each subchapter.

## 6.1 The Currently Implemented Anti-doping Educational, Research, and Compliance Initiatives

This section discusses the most recurrent themes in relation to the literature review. It unpacks the extent to which the literature review confirms, disproves, is added upon by the research results in terms of currently implemented anti-doping initiatives.

### Education

According to the findings, Aruba's anti-doping educational system aligns with what are described in the WADA International Standard for Education (ISE), by including nearly all target areas stipulated in the international standard (World Anti-Doping Agency, 2021). As stated in the literature, the Code stipulates that education programs must also include awareness, information, values-based, and education components, all of which must, at the very least be accessible online, while also addressing medication use, Therapeutic Use Exemptions (TUEs), and the testing procedures. Moreover, the research results revealed that

educational workshops and seminars in Aruba "address the testing process, Therapeutic Use Exemptions, and the whereabouts system", which provides significant support for this. Thus, the ISE's recommended learning areas are reflected significantly in Aruba's anti-doping education programs content-wise.

Additionally, the literature mentions that the national education program's explicit justification must serve as the basis for prioritizing specific target groups or activities. This also aligns with many of the organization representatives' responses on the topic of anti-doping target outreach. Furthermore, the literature states that for countries lacking an independent National Anti-Doping Organization (NADO), the Code encourages NOC's to function as resource centers for anti-doping information. According to the literature, the required information therefore may be posted on the website of the NOC when a particular NADO does not have its own website. The results, which state that "COA's website and social media host publications, the Prohibited List, and required forms", support this arrangement. This demonstrates that Aruba's communication system fairly complies with WADA's accessibility standards for smaller signatories. However, it is apparent that this website requires significant updates on anti-doping information. This shows that Aruba complies with the standard in this area, but lacks content and proper utilization of this resource.

Conversely, the findings and the literature both highlight how important having qualified staff is to carrying out educational programs. While the results indicate that workshops are hosted by AruNado and the Athletes' Commission, as well as DCOs coordinate and lead these workshops, the literature claims that "education programs must be provided by qualified and authorized staff".

This shows that the Aruban Anti-Doping Commission (AruNado) does its best to comply with the requirement of using skilled staff to carry out the required implementation

role. Although this may be the case, it is very limited resource following the results that mention a shortage on skilled personnel to carry out anti-doping responsibilities.

**Research**

The literature mentioned that the WADA Social Science Research (SSR) Strategy (2020) outlines six global priorities, including developing research capability and partnerships for strategic research. The literature also emphasizes that anti-doping organizations are required to promote anti-doping research. The findings, however, indicate that there is no anti-doping research being conducted in Aruba, no established local research laboratories, no dedicated staff, and no collaborations being done for research at the moment. This indicates a major implementation gap, which means that Aruba's anti-doping infrastructure lacks the institutional capacity to promote research, despite the Code's requirement that signatories do so.

Additionally, the literature points out that regional and academic partners are meant to be connected through international collaboration platforms like the WADA SSR initiative. The findings indicating show that Aruba partakes in research only through Caribbean RADO research projects with certain universities indirectly. This loosely reflects what was said in the literature. Although it may be participation that benefits the other party rather than improving Aruba's research capabilities or knowledge. Therefore, Aruba's involvement in research is primarily based on regional involvement rather than independent national activity, which confirms the literature's finding that small or developing nations frequently depend on collaborative frameworks to increase their capacity for research (Heuberger et al., 2021; Petróczi et al., 2021).

**Compliance**

According to the literature, the International Standard for Code Compliance by Signatories (ISCCS, 2024) mandates that NADOs set up audits, monitoring, and reporting as

part of transparent, consistent systems for evaluating adherence to anti-doping rules. The results indicate that the Code Compliance Questionnaire (CCQ) is the primary compliance mechanism, as demonstrated by the results, which indicated that Aruba's anti-doping compliance level is evaluated every two years through the Code Compliance Questionnaire using about 200 questions.

As of currently, there is only one person in charge of making sure Aruba complies with international anti-doping requirements, this supports the idea of a base for formal alignment with the ISCCS structure, albeit with limited local capacity. In light of this, Aruba's compliance strategy follows the bare minimum reporting requirements but lacks the staff and funding necessary for ongoing monitoring.

Furthermore, the literature illustrates that federations' eligibility for funding in Aruba is dependent on their compliance to the anti-doping rules required by COA and SSA. While this might empirically support the results indicating that federations must indeed adhere to AruNado's requirements to request subsidy, it does not illustrate the extent to which the compliance initiatives function in regards to these requirements. In regards to this, one of the few effective accountability measures identified that completely integrates theory and practice is the clear relationship between financial support and anti-doping adherence.

The literature does, however, emphasize that compliance requires ongoing observation in addition to periodic evaluation.

In contrast, the results show that Aruba's monitoring is done through periodic self-evaluation rather than on a regular or proactive basis through on-field personnel and similar-leveled approaches. The results also illustrated that there is no internal capacity to start independent testing or enforce accountability measures. As a result, even though the CCQ meets WADA's minimal formal requirement, it does not adhere to the ISCCS's principles of continuous evaluation and enforcement. This further emphasizes a lack of a

monitoring structure, as well as internal resources for further development of compliance initiatives.

Conversely, the results find by highlighting an emerging effort to use Key Performance Indicators (KPIs) for monitoring in the future. As mentioned by some participants, plans are underway to introduce Key Performance Indicators (KPIs), which are expected to be in effect by 2025 or 2028. This thus illustrates an initiative bring Aruba a step toward implementing the ISCCS recommendations for measurable monitoring and evaluation frameworks and is consistent with the literature's emphasis on introducing systematic performance measurement frameworks instead of less meaningful initiatives. Although it is arguable that this initiative could merely be to avoid sanctioning, it definitely provides a solid basis for future anti-doping measures.

The results support the literature in the three areas of education, research, and compliance. They confirm the formal compliance of Aruba's anti-doping system with WADA and UNESCO standards, specifically with regard to organizational accountability, structure, and execution of recommended instruments such as the CCQ and ADEL.

However, the results also highlight gaps in implementation structures and capacity, particularly in the areas of inclusive education outreach, ongoing monitoring, and local research output. The situation in Aruba is a significant reflection of the literature's portrayal of "compliance on paper" (Houlihan, 2013), although the structural framework is in place, execution is uneven and reliant on a small number of employees and local initiative.

To answer the first sub-question, Aruba's current anti-doping initiatives are mainly focused on compliance and education, with no noticable advancements in research. Initiatives related to education include mandatory online courses like ADEL, workshops and seminars hosted by AruNado and the Athletes' Commission, and awareness campaigns distributed through educational institutions, federations, and online platforms. These initiatives, which

address important subjects like testing protocols, TUEs, and athlete responsibilities, are essentially in line with the World Anti-Doping Agency International Standard for Education.

As for research, Aruba does not presently have any organized national anti-doping research initiatives. Due to a lack of support from organizations and local research capacity, current efforts are limited to indirect involvement in regional collaborations, not directly contributing to Aruba's anti-doping initiatives.

Aruba adheres to formal mechanisms for compliance, including the Code Compliance Questionnaire (CCQ), periodic assessments, and federation funding-related adherence requirements. Despite the fact that these structures comply with international standards, monitoring is still mostly reactive and is limited by a lack of funding and human resources. Even though Aruba's implementation varies in each of the three areas, it generally shows formal alignment with international frameworks.

### 6.2 Sport Stakeholder Perceptions on Anti-Doping Initiative Effectiveness

This section compares the perceptions of sports stakeholders on anti-doping initiatives (The results) to literature of the same topic. The stakeholder perceptions of Aruba's anti-doping initiatives identified both emerging themes unique to the island's governance context and recurrent patterns found in the broader literature.

#### Education

Although education was perceived as important, it was not thought to have been effectively executed nor as engaging according to all 3 participant groups. Nevertheless, anti-doping education raised awareness and understanding on anti-doping, accountability to a certain extent, and critical thinking, according to sports stakeholders in all three participant groups. This continuing perception is in total alignment with the literature, which as highlighted by Loland (2017), education frequently lacks long-term engagement and

values-based depth. This also supports Woolf's (2020) claim that athletes commonly perceive current programs as ineffective, uninteresting, and poorly designed. These concerns are further reinforced by the results, indicated by some participants who acknowledged feeling annoyed by the repetitive and dull educational sessions. Athletes also perceived online learning modules as tedious and uninteractive. This recurring perception across all three participant groups thus illustrates its connection with the literature.

Another recurrent theme supported by literature according to ASPs noted that mainly elite athletes receive a considerable amount of anti-doping education, often excluding younger or less experienced athletes, young children, and even parents. While this can obstruct the anti-doping knowledge transfer, it can also hinder these target groups from further spreading this knowledge or even conduct anti-doping practices. This aligns with the literature from Shindo et al. (2019), who found that although 90% of coaches viewed anti-doping lectures as essential, only one-third actually delivered them, and also that there was a significant gap between the understanding of anti-doping importance and the actual implementation of anti-doping practices. This demonstrates a misalignment between perceived importance and execution where stakeholders highly value education but report poor outreach to non-elite groups, as demonstrated by the relevant literature.

Additionally, the research results add upon the literature by emphasizing the importance of parents and families as anti-doping effectiveness 'strengthening factors'. ASPs found that the effectiveness of education is greatly increased when parents are involved, as information would further flow throughout households and communities. The literature from Hurst et al. (2023) and Nicholls et al. (2025) support interactive education generally. They argue that active-learning workshops improve engagement, although they do not explicitly discuss parents as core educational multipliers.

Additionally, the relevant sports organizations provided Chiefs of Mission, medical staff, and certain ASPs with specific training in preperation for competitions which included anti-doping. This indicated a type of role-based education that hasn't been thoroughly explored in the larger literature. This is an emerging theme that offers local perspective on the dissemination of education in small-scale sports ecosystems, while still adhering to the WADA's requirements implying the development of anti-doping staff

However, the research results does not support the literature by Woolf (2020), which claimed that education is widely distrusted, ineffective, and viewed very negatively by athletes. On the contrary, the results show that all three participant groups expressed trust, perceived relevance, increased knowledge, and at times, even perceived the educational workshops as more engaging than prior sessions. These participants did however, find the sessions generally dull and expressed a need for further development and in need of investment. This means there was no significant match between the literature and these findings.

**Research**

Efverström et al. (2016) argued that when anti-doping rules are based on athlete experiences and empirical research, they establish legitimacy and stakeholder trust. Also, according to Donovan et al. (2015), a large number of NADOs depend on outside assistance because they lack the capacity to conduct research. in connection to this, all three participant groups expressed a similar opinion, emphasizing the urgent need for evidence-based guidance and the lack of local research. Several participants pointed out that since no anti-doping research is being conducted in Aruba (mainly due to lack of resources and interest), research was viewed as the next action point. and that the lack of research in areas such as public perceptions or doping behavior makes it difficult to assess initiatives or develop solutions for crucial topics and issues. This ultimately illustrates that both the literature and results point

towards a heavy need for anti-doping research and the significant influence it has on proper policy implementation. Additionally, the results suggest that Aruba's anti-doping framework runs the risk of remaining compliant on paper but cut disconnected from the actual experiences of its athletes and ASPs if data collection and local research initiatives are not implemented, especially through underutilized institutions, in this case it is the University of Aruba.

The literature claims WADA developed tools and resources to support anti-doping organizationsthat lack the capacity in conducting research and evaluating their programs (Donovan et al., 2015). In contrast to this, the results slightly contradicts this by illustrating the absence of anti-doping research initiatives implemented in Aruba. This indirectly shows that Aruba has not utilized, and perhaps not received these aforementioned resources and tools that are intended for research-driven initiatives.

**Compliance**

Most of the athletes and ASP participants reportedly had trust in the anti-doping rules, however they doubted that these were consistently enforced. For instance, local recreational events that had money awards, athletes claimed that dope testing was never conducted during these competitions. This is supported by Woolway et al. (2020), who stated that athletes generally support anti-doping policies but believe they are occasionally intrusive and inconsistently implemented. In a similar direction, Qvarfordt et al. (2019) discussed how athletes worry about legitimacy and autonomy when enforcement is inconsistent. This shows that this concern transcends international contexts and applies to Aruba's context, proving to be a significant concern.

There is no formal system in place to monitor clubs, federations, or other stakeholders to ensure that rules are followed according to organizational representatives, this is accompanied by a lack of monitoring data. Some participants interpreted the lack of ADRVs as success through the expression "no news is good news". This strongly supports the argument made by Houlihan (2013) that organizations frequently exhibit "formal commitment" but little substantive engagement because of excessive demands or limited resources. This implies that NADOs will most likely refrain from implementing refined compliance and monitoring initiatives if there is no surfacing sense of urgency or widespread knowledge on current doping violations. To support this, similar findings were made by Skinner et al. (2022), who concluded that when deeper monitoring is not possible, many NADOs use the CCQ to attain surface-level compliance. As a result, Aruba replicates this recurring international theme. However, this is done in an indirect way through the system as opposed to direct individual action.

An interesting emergent theme is the potential emotional effects of compliance which were reported by athletes in both positive (increased accountability) and negative (paranoia, anxiety around testing) ways. According to ASPs and athletes, fear of the consequences of doping promotes accountability, but insufficient knowledge on testing procedures contributes to anxiety. To be specific,  anxiety during the testing process and prior to testing. While Engelberg (2015) notes athletes supporting more effective doping prevention without exploring its psychological challenges, this dual effect is not well described in the literature.

Similarly, a finding that was interesting was that there was a mentioned possibility of athletes that may suffer from depression when faced with the anti-doping rule violations and other consequences of doping. This could be due to lack of knowledge among other reasons. Although this was expressed with much conviction as a very dangerous consequence that should be avoided at all cost, this finding lies outside the scope of the existing literature

considered. The emerging theme is thus that in the context of Aruba, prevention or compliance initiatives may increase anxiety or other more serious psychological issues when there is a lack of clarity in education and/or an anti-doping rule violation.

To answer the second sub-question, anti-doping education and compliance initiatives are perceived by Aruba's sports stakeholders as crucial and essential, although their perception on effectiveness and the implementation vary. To elaborate, education is acknowledged for raising awareness, accountability, and understanding of anti-doping across all participant groups. However, it is frequently characterized as repetitive, boring and inadequately adapted to various target groups. Stakeholders specifically pointed out gaps in outreach to younger, non-elite athletes and the low level of parental involvement, when parents are thought to be crucial in promoting anti-doping values. In contrast to the literature, stakeholders do not express a strong mistrust of education. Rather, they see it as relevant and improving, although still in need of significant improvement and better delivery methods.

Regarding compliance, stakeholders expressed general confidence in the anti-doping regulations themselves, but they also voiced concerns about their uneven application and inadequate oversight. To clarify, anti-doping rules may be clear, but athletes and ASPs pointed out that there are almost no rules that ensure compliance among ASPs. As for oversight, there is no reported 'day-to-day-' monitoring mainly due to resource constraints. Organizational representatives also highlighted a lack of trustworthy data and organized monitoring systems, implying that compliance is frequently upheld at a formal level rather than through ongoing on-field oversight. In general, gaps in execution, consistency, and resource capacity are thought to limit effectiveness rather than the lack of frameworks.

## 6.3 Challenges with Anti-Doping Initiatives

This section analyzes the challenges mentioned in the literature and links them to the challenges mentioned by sports stakeholders on anti-doping initiatives from the results section. The challenges of Aruba's anti-doping initiatives identifies many common themes and some unique themes connected to the Aruban context.

### Education

One of the biggest challenges that Aruba's anti-doping organizations and stakeholders face according to all three participant groups is not the complete lack of anti-doping information in itself, but rather awareness, access points, and the distribution and application of anti-doping information. The athlete participants indicated that a lack of awareness is still a more significant problem among their peers and other athletes, especially for younger athletes. This was mentioned in contrast to stating that they had significant trouble getting information in general. Additionally, young and unexperienced athletes are particularly at risk when they have "blind trust" in peers or uneducated ASPs who offer or recommend them supplements or other products without knowing if they contain prohibited substances, according to a number of participants. This relates well with the literature, which states that amateur athletes frequently rely too much on unofficial sources like coaches, trainers, and peers, which can be unreliable or misinformed, and therefore are unaware of the dangers of medicine or supplements that do not need any prescriptions (Erickson et al., as cited by Henning, 2016). To further support this, the literature by Morente-Sánchez (2013) noted that athletes frequently lack awareness of prohibited substances and rules, and coaches frequently serve as the main source of anti-doping information. This indicates an issue spanning different contexts internationally.

Additionally, the results demonstrate how this dynamic manifests itself in Aruba. Although information is technically accessible through organizations like Arunado and CEMEDAR, it frequently becomes "stuck" at the federation level. According to various participants, coaches and athletes almost never receive emails if the one or two important federation representatives in a federation do not forward or even open them. This practical barrier represents how structural communication problems may contribute to the awareness and knowledge gaps that have been documented in the literature and expressed by participants among all three groups.

The involvement of young athletes and the integration of anti-doping content into the Aruban educational system present another significant challenge. According to ASPs and organization representatives, a lot of initiatives failing to reach schools or younger age groups effectively, and when they do, the sessions frequently don't hold the audience's attention because they are too technical or not tailored to the audience's age and comprehension level. expanding upon this, Ignjatović et al. (2017) mentioned that anti-doping measures in formal education are challenging to implement and frequently encounter resistance or skepticism, especially when they interfere with traditional, and outdated approaches and procedures. This resistance appears to be less ideological, which Ignjatović et al. describe as opposition rooted in cultural norms, values, ingrained practices, and discomfort with change. On the contrary, it appears in a more practical sense in Aruba, where the scope, depth, and consistency of educational initiatives are limited by time slots (typically 1.5–2 hours per session), densely packed content, and the need to obtain approvals from uncommitted ministers or schools with already-dense curriculum.

Adding to these educational challenges are organizational limitations. It is clearly evident that there is a lack of staff to support anti-doping education in all sports and a

significant dependence on individual coaches or commissions to request and help arrange sessions. Only a small portion of federations actually attend the annual workshops that Arunado tries to arrange. This is in line with Patterson et al. (2016), who explain how anti-doping education personnel in many organizations have to balance a number of responsibilities, including whereabouts, results, and disciplinary matters, which leaves little time and ability for guidance. Adding to this, it was revealed by the results that there were no official tools for assessing the effectiveness of anti-doping education and that, as a result of a lack of funds and personnel, the planning and execution of educational activities are frequently managed by a single individual. The literature further supports this with the argument that thorough descriptions of anti-doping education initiatives may help with basic output-based evaluation, but are not enough to evaluate the social and societal impacts of anti-doping education (Blank and Petróczi, 2023).

Conversely, the technical terms and complexity of many official resources may add another level of difficulty. While many athletes speak multiple languages, some participants (mainly ASPs and organization representatives) argued that a significant amount of anti-doping information is only available in English and Spanish, and frequently contains complex medical terms, especially on websites like Global DRO. Although there is the literature does not support this result, Morente-Sánchez (2013) indirectly addresses this by pointing out that younger athletes might struggle to understand these terms without proper guidance. An interesting contrast to this is that there were actually no athlete participants who reported this potential challenge.

**Research**

On the basis of research, the challenges reported in Aruba mainly supported the global picture depicted in the literature, but they do so in a noteworthy manner. Firstly, t here is little

to no formal anti-doping research conducted in Aruba, according to all three participant groups. Even basic data, like the number of tests conducted, the prevalence of doping, or supplement use patterns, are scarce, according to athletes and ASPs. One athlete stated bluntly that "every research has its price," highlighting the importance of financial obstacles. The majority of references to "research" are limited to student theses rather than systematic, institutionalized projects, and organizational representatives confirmed that very few people in Aruba have the knowledge, time, or mandate to start and oversee anti-doping studies.

This is directly supported by WADA (2020), which recognizes that the majority of anti-doping initiatives are project-based, short-term, and insufficient to influence long-term policy decisions, and that social science research (SSR) is still underutilized across various signatories, especially at the policy level. In the Aruban context, It can be assumed that the SSR is not being utilized seeing as there is are no anti-doping studies being conducted. Thus it can also be inferred that this international research tool is not being shared with potential partners as of writing this study. Other challenges in Aruba mentioned were inadequate funding and infrastructure, and underutilized partnerships for research. In a similar direction, Bowers and Bigard (2017) highlight practical challenges like scarce resources, an absence of organized cooperation among interested parties, and athletes' hesitancy to divulge private information. To elaborate, because of certain norms and taboos in certain sports, coaches and other actors may withhold sensitive information, which compromises the representativeness and quality of any potential data. The ASP participants identified exactly this type of "selective openness". Interestingly, it could be seen that this was not only the case with athlete participants, but more common with some of the organization representatives. This could be seen through them either avoiding questions by mentioning positive actions as opposed to the requested challenges, or downplaying core challenges. Granted, this may be

due to the small Aruban sports context, where people and their role may be more easily identifiable which may warrant caution.

**Compliance**

The study's identified compliance issues indicated certain operational challenges while also being consistent with the literature. Firstly, the significant low rate of doping tests, particularly at local events with monetary awards, was often mentioned by various athlete and ASP participants as a significant and common problem that lowers their trust in the consistent application of anti-doping compliance initiatives. the perception on the dope testing capacity of Aruba was also among the negatively impacted views. This is consistent with Efendiyev's (2023) finding that NADOs frequently struggle to fully meet international standards due to a lack of resources, a lack of technical expertise, and inconsistent operational procedures. For instance, the study revealed that it is challenging to ensure reliable and consistent testing coverage due to Aruba's small number of DCOs (some of whom are still in training), and manual scheduling procedures. An illustration of this issue could be what a participant mentioned, which was "No competition that I went to in Aruba had doping tests taking place. So nobody would get tested. Let’s say we have a marathon, there is never a doping officer at the marathon" (Personal communication, 10 June, 2025). While the researcher is aware that the anti-doping organizations in Aruba prioritize elite international and national athletes when it comes to testing, this issue nevertheless impacts the anti-doping culture in Aruba negatively as expressed also by many participants. Similarly, Gray (2018) finds that, despite formal alignment with the Code, compliance frequently lags in practice, several participants pointed out that, regardless of the existence of anti-doping regulations, there is no reliable system to track adherence among federations, clubs, or ASPs. This proves to be an internationally common issue, especially among NADO’s with a lack of resources and structure policy-wise.

Secondly, ASPs added since their federations frequently don't have rules requiring them to contribute to the organization of workshops, monitor substance use, or follow up with athletes, compliance occurs frequently more through individual initiative rather than institutional accountability. Zheng (2020) contributes to this finding by arguing that confusion and ineffective implementation result from ambiguous contracts and unclear role expectations. Therefore, if coaches do not have anti-doping responsibilities in their contracts, and federations do not have anti-doping policies in place, then this will lead to inadequate compliance levels. In contrast to these results, Houlihan's (2013) literature is contradictory. Houlihan claims that sports organizations frequently exhibit a strong formal commitment to anti-doping as a political or reputational strategy, even if practical implementation is weak. This suggests that Aruban federations lack both structured accountability and strong symbolic compliance, in contrast to Houlihan's implied organizations that uphold "symbolic" compliance to project legitimacy. Contrary to the notion that organizations strategically collaborate with anti-doping authorities in order to preserve political standing, compliance instead mainly depends on individual initiative rather than institutional commitment following the voluntary nature of national sports federations.

Thirdly and similarly, the lack of communication between federations and anti-doping organizations. Some organizational representative participants admit that they rarely communicate with AruNado because of time restraints or workload demands. One significant organizational representative even reported that they rarely communicate with AruNado because of time constraints or demanding workload, and national federations often lack even the adequate procedures, if not, fundamental policies required to meet formal requirements.

On another note, Shaw (2019) reported instances of ASPs actively doping athletes by either prescribing risky supplements without consulting the Prohibited List or recommending

said supplements to the athletes. However, similar incidents were not found in this study due to the approach not being designed to uncover these scenarios. Rather, this study demonstrated how underdeveloped monitoring systems can contribute to the conditions that allow such doping risks and behaviors to occur.

To answer the third sub-question, Sports stakeholders identified a range of interconnected challenges that hinder the effectiveness of anti-doping initiatives in Aruba. In terms of education, the main issue is not the absence of information, but rather limited awareness, ineffective distribution, and inconsistent access or knowledge of access. Stakeholders highlighted that information often does not reach athletes due to breakdowns at the federation level, while younger and less experienced athletes remain especially vulnerable due to reliance on peers or uneducated ASPs. Additionally, educational initiatives struggle to effectively reach schools and maintain engagement, often due to time constraints, lack of tailoring, and limited institutional support. These challenges are further intensified by staff shortages and the absence of structured evaluation mechanisms.

As for research, There is a near absence of local anti-doping research initiatives. This is mainly because of limited funding, lack of expertise personal initiative, weak institutional support, and underutilized partnerships. As a result, there is a lack of reliable data to inform policy and evaluate the already-existing initiatives, which limits the development of evidence-based strategies. Cultural factors, such as reluctance to share sensitive informatio also complicate data collection and research efforts.

Regarding compliance, the findings point to operational and structural limitations. Stakeholders noted low testing frequency, particularly at local events, which undermines trust in enforcement. Compliance is often dependent on individual initiative rather than formal systems, due to unclear roles, lack of federation-level policies, and weak monitoring

mechanisms, which the literature also points out. There is also limited communication between key organizations and resource constraints, which further hinder consistent implementation. Overall, these challenges reflect a system that is formally aligned with international standards, but hindered in practice by capacity, coordination, and contextual limitations.

## 6.4 Improvement Recommendations for Anti-Doping Initiatives

### Education

Many suggestions made by all participant groups for improving anti-doping education in Aruba strongly align with a number of themes found in the literature, particularly in relation to early outreach, active learning, and the use of a diverse communication platforms. For instance, the need for early, frequent, and values-based education is a significant point of overlap between the research results and the literature review. Organizations and athletes call for more frequent workshops, especially catered toward athletes at the youngest possible level, as well as the introduction of these in more schools. This thus calls for further development of the educational pilot program that targets educational institutions. These recommendations also align with the literature that highlights education as a fundamental pillar of anti-doping (WADA, 2019) and with the findings of Nicholls et al. (2025), who found that youth targeted educational program improve ethical behavior, knowledge, and resistance to doping. This alignment shows that Aruba's stakeholders are already aware of the same prevention systems that have been identified in international literature.

Recommendations to make workshops more interactive and customized, like incorporating hands-on supplement-checking, letting athletes handle testing kits, and using real-life case examples showcase a second strong fit. These suggestions express similarly to

Woolf's (2020) claim that passive materials for learning currently being used do not support comprehension. Additionally, Hurst et al.'s (2023) findings that interactive workshops with role-playing and discussion greatly raise athletes' awareness and lower their intentions to dope are also reflected in them, which adds to Woolf's claim that educational programs can be improved by further promoting value-based learning in anti-doping education. The literature's regarding how stakeholder engagement improves learning outcomes are thus directly supported by the results' consistent emphasis that workshops must become more interactive and adapt to the audience.

The literature also seems to support stakeholder-reported need for Stakeholder calls for education through media. for instance, In parallel with Yang et al. (2021), who demonstrated that media can increase public awareness, enhance transparency, and even influence anti-doping policy reform, participants suggest using social media, short videos, and mobile apps because "Instagram and Facebook would reach them faster." The connection implies that Aruba's sports stakeholders understand that digital tools can be particularly useful in spreading anti-doping messages in small, highly connected communities. While media can positively contribute to transparency, awareness, and engagement with stakeholders, the literature does not dive deep into how media can influence anti-doping policy reform. One can argue however, that the previously mentioned results from media utilization can lead to policy reform via productive discourse.

While many of the recommendations given by the participants were in line with the literature, there were some areas where the literature and the Aruban context were divergent. First, none of the participants mentioned the need for structured evaluation or cognitive learning strategies, despite the literature highlighting the significance of matching learning objectives with assessments and employing pedagogical strategies like retrieval practice and

interleaving to strengthen long-term retention (Woolf, 2020). Rather, participant recommendations which included the organizing of more interactive workshops, utilizations of more short videos and real-life cases mostly focused on the delivery aspect instead of how learning outcomes should be evaluated or improved. This implies a practical, execution-level priority instead of the theoretical improvement recognized in the literature.

Notably, none of the participants that were part of the educational pilot program for schools reported cultural or attitudinal resistance to the introduction of anti-doping education in schools, which is contrasting to the literature highlighting potential resistance to anti-doping education when new concepts enter school systems (Ignjatović et al., 2017). In fact, they expressed a need for increased outreach within schools and even proposed extending educational initiatives into youth, other communities, and other schools. In comparison to larger systems, educational resistance may be less noticeable in Aruba perhaps due to its smaller size, more cohesive sports community, and ample room or need for improvement. Although, this may differ when it comes to introducing other types of education. The literature does not explore this factor thoroughly enough to concretely prove that there is or is no resistance toward newly introduced anti-doping education.

**Research**

In terms of research, it is very interesting to note the difference between local Aruban context and international context seen in the literature. For instance, even with research literature encouraging NADOs to undertake longitudinal, theory-driven, and prevention-focused research (Lux & Vinther, 2023), the results show that the majority of participants recommended simpler approaches to anti-doping research, such as short surveys,

simple questionnaires, and basic descriptive data collection. This indicates a gap between international research expectations and local capacities.

**Compliance**

In correspondence with the previous paragraph, the literature describes highly structured anti-doping systems, like UKAD's ISO-certified monitoring frameworks, risk-based testing algorithms, and multifaceted regulation (Batt, 2011). Meanwhile, participants centered more on foundational needs, such as simply conducting more dope tests, improved communication, and more assigned responsibilities, which suggests that the island is operating at an initial development stage far below what the literature assumes. Lastly, although Vasques et al. (2021) express caution against politically motivated or reactive compliance systems, some of the results reflect a practical, incentive or initiative-based approach rather than the comprehensive, culturally built compliance model outlined in the literature. For example, linking SSA subsidies to the organizing of anti-doping workshops, or leaving the sports clubs and ASPs to show the  initiative to call for an anti-doping educational session. These differences thus show that while the literature supports institutional maturity, structural integration, and long-term behavioral change, Aruba's recommendations revolve around short-term effectiveness and limited resources.

To answer the fourth subquestion, There is a range of practical and context-specific strategies to improve anti-doping initiatives in Aruba, with a strong focus on feasibility and immediate impact. In terms of education, the most significant recommendation is to introduce anti-doping education earlier and more frequently for athletes, particularly within schools and youth programs. Also, more interactive and engaging delivery methods, such as hands-on workshops for all athletes, real-life case examples, and the use of digital platforms like social

media and short-form content that is more engaging for youth. Additionally, increasing outreach to parents, non-elite athletes, and the wider community is essential to strengthen knowledge transfer and reinforce clean sport values beyond the athlete alone.

With regard to research, it is suggested to start with simple and accessible approaches, such as short surveys, questionnaires, and basic data collection on athlete behavior and perceptions. Rather than aiming for complex or large-scale studies, the focus is on building a foundation for research capacity that can gradually be expanded over time, notably through collaboration with local institutions such as the University of Aruba and Educampus to start.

Compliance recommendations mainly centers on strengthening basic monitoring and enforcement mechanisms. This includes increasing the frequency of doping tests if possible, particularly at local and recreational events, improving communication between organizations and stakeholders, and clarifying roles and responsibilities across federations and ASPs. Overall, the recommended strategies is to prioritize realistic, scalable improvements that align with Aruba’s current resource constraints and stage of development.

# 7. Conclusion and Recommendations

This chapter begins with a conclusion that addresses the main research question: “How effective are Aruba's Anti-Doping initiatives in terms of education, research, and compliance as perceived by sports stakeholders?”. Following that, recommendations are provided on how to improve the effectiveness of Aruba’s anti-doping initiatives based on the three core concepts. The chapter also discusses the research's strengths and limitations and provides suggestions for future research.

## 7.1 Conclusion

The main objective of this research is to examine how effective Aruba's anti-doping initiatives are in terms of education, research, and compliance as perceived by sports stakeholders. Although Aruba's anti-doping policy is generally in line with the World Anti-Doping Code and the UNESCO Convention Against Doping in Sport, its current initiatives are still mostly concerned with compliance and education. Workshops, online training and certification, specialized training for particular athletes and ASPs, testing protocols, ADAMS whereabouts requirements, dope testing, and recurring CCQ-based compliance reporting are some of these. However, local anti-doping research is still mostly lacking and restricted to indirect regional cooperation, which is indicative of broader institutional capacity limitations in Aruba's small-scale sports system.

Education was seen by most stakeholders as the most effective but unevenly implemented area. Organization representatives saw it as evolving but lacking widespread outreach, athletes appreciated it for increasing awareness, and ASPs thought it was crucial but inadequately organized. Research was consistently identified as the weakest area, while compliance was perceived as formally present but inconsistently monitored and enforced.

Limited staff and funding, overlapping responsibilities, lacking interorganizational coordination, insufficient information flow through federations, inadequate outreach to youth and non-elite groups, and the lack of local research and monitoring systems were major issues for all groups. These results indicate that perceived relevance, visibility, and practical applicability of initiatives are just as important to their effectiveness as formal compliance to international standards. To enhance effectiveness, stakeholders recommended earlier and more interactive anti-doping education, increased use of digital platforms and schools, greater parental and federation involvement, the development of simple local research initiatives supported by partnerships, and more systematic compliance mechanisms through improved communication, stronger monitoring capacity, and clearer responsibilities. Overall, strengthening implementation capacity and stakeholder engagement, rather than focusing solely on formal compliance, is essential to improving the legitimacy, sustainability, and long-term impact of Aruba's anti-doping system.

### 7.2 Recommendations

**Education**: Introduce anti-doping education earlier and more frequently for athletes, while implementing value based learning so that these principles are instilled earlier. Incorporating short and engaging educational videos on social media with practical demonstrations can improve understanding and athlete outreach without requiring significant additional resources. A great way to do this is by leveraging youth willingness to participate in trending videos on social media, which can be an effective way to tackle the issue of lack in expertise and resources. Young athletes can also provide relevant insight into what captivates youth interest. Also add more engaging teaching methods and tailor them to the specific age range. For example, allowing the audience to interact with the demonstration can give them a better idea of what to do when they actually have to deal with certain procedures

in a real-life setting. Also, the language level should be adapted according to the audience. This can increase the chances of knowledge transfer and retention for the athletes.

**Research**: Aruba could start simple. For example, sport organizations can start with short surveys and questionnaires aimed at athletes and ASPs to collect information on knowledge, attitudes, and supplement use instead of conducting extensive studies. Furthermore, building a local database, such as a Google Drive centered on athlete insight can be done sustainably and cost efficiently by working with the University of Aruba or other institutions and involving students in data collection.

**Compliance**: More consistency and transparency should be added to compliance procedures. This can be accomplished by making sure that roles and responsibilities are well-defined for the stakeholders involved (e.g coaches, parents, and sport therapists), enhancing the frequency of whereabouts follow-ups and the clarity of whereabouts requirements, and making testing procedures clearer to see.

**General**: Stakeholder coordination and communication must be improved. Federations could take a more proactive approach to information sharing, athlete follow-up, and education session participation. This can be achieved by establishing clear lines of communication and roles between AruNADO, federations, and other organizations. While unconventional and informal, team sports can utilize one athlete in the team to relay important information in order to avoid the “middle man” communication issue. They can also be involved in the email communication chain.

### 7.3 Strengths and Limitations

This sub-chapter discusses both the strengths and the limitations of the research. While the study offers valuable contributions by focusing on the Aruban sport context, However, it also faces certain limitations, such as a small sample size and time constraints.

***Limitations***

A number of limitations were identified during the research process. Firstly, the timing and scheduling of interviews was one of the limitations. Interviews were frequently conducted within constrained time frames due to participants' work, training, and academic obligations. This meant that some follow-up or probing questions could not always be fully explored because it was necessary to prioritize the most relevant questions related to the research objectives. For the research, this limited the depth of understanding on some secondary aspects of anti-doping initiatives. This limitation thus prevented the researcher from fully exploring all concepts to the fullest extent, which prevents the study from getting all stakeholders' perception on all point consistently.

Additionally, when participants had already discussed related subjects earlier in the interview or when time constraints became apparent, some questions were changed or removed. As a result, more subtle or less prominent issues may have been underrepresented in the data gathered, while recurring and prominent themes mayy have been given more weight. What this means for the research is that rather than offering an equally detailed description of every potential point of view, the findings largely represent the most commonly shared views and structural problems. While the study offers a reliable overview of central themes within Aruba's anti-doping landscape, certain context-specific or less visible dynamics may not have been fully captured. Consequently, the reliability of the research is impacted by this limitation. Whereas if longer interviews had been conducted, it may have allowed for deeper exploration of implementation details and individual experiences.

Lastly, the diversity of sports included in the sample presents a limitation. Since sports differ in organizational structure, testing exposure, and anti-doping culture, the

findings may reflect stronger patterns from the more represented sports than from the wider variety of sports practiced in Aruba. Therefore, rather than representing the entire range of sport stakeholders in Aruba, the results might represent common patterns within the sampled sports.

### *Strengths*

This study's uses a multi-stakeholder approach, which incorporates viewpoints from athletes, athlete support personnel (ASPs), and representatives of sport organizations. This is one of its main strengths. Since it captured how policies and programs are viewed and experienced at various levels of the sports system, this made it possible to gain a more thorough understanding of anti-doping initiatives. The study was able to pinpoint common issues as well as differences in opinions about compliance, research, and education by incorporating a variety of stakeholder groups. This advances a more comprehensive analysis by going beyond a single-group viewpoint and offering insights into how anti-doping programs actually work in the context of Aruba.

Despite the uneven representation of sports as mentioned in the limitations section, the inclusion of various stakeholder groups from various sporting contexts is a significant strength of this study. This provided a more comprehensive understanding of the system beyond a single-sport viewpoint by enabling the identification of recurrent patterns and common difficulties in anti-doping education, research, and compliance.

Lastly, this study used a structured conceptual framework based on the three concepts of education, research, and compliance. The framework provided a consistent basis for data collection, analysis, and interpretation, which ensured that all findings were thoroughly connected to the research objectives. Additionally, the framework aligns with key principles outlined in the World Anti-Doping Code, while being adapted to Aruba’s institutional

context. As a result, it strengthened the study's overall clarity and internal consistency by providing meaningful comparisons across the three stakeholder groups.

### 7.4 Future Research

Future research could explore the types of substances commonly used by athletes in Aruba, as well as broader societal views on doping and athlete-specific perspectives on its use. Such studies would provide a clearer understanding of the local doping landscape and culture. Additionally, further, narrower research is needed to evaluate the effectiveness of different anti-doping education approaches, particularly the impact of interactive and early-age interventions on long-term knowledge retention and behavior. Given the limited availability of local data, research involving social influences on athletes would also contribute to more evidence-based policy development. From a compliance perspective, future research could assess the role of federations in enforcing anti-doping policies. All in all, expanding research efforts in these areas would support the development of more context-specific and evidence-based anti-doping strategies in Aruba.

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# Appendix A: Interview Guide

SEMI-STRUCTURED INTERVIEW GUIDE

Title: **Building the Bridge Between Anti-Doping Perception and Action:** A Qualitative Study on the Perceived Effectiveness of Anti-Doping Education, Research, and Compliance in Aruba.

Date:

Time:

Place:

Interviewer: Joey Francisco

Interviewee:

## INTRODUCTION

My name is Joey Francisco, and I am a fourth-year student in the Organization, Governance, and Management program at the University of Aruba. I would like to invite you to participate in my research on Aruba's Anti-Doping initiatives and how effective they are in 3 areas. These areas are Education, Research, and Compliance. This research is based on the perspectives of (1) sports organizations, (2) athlete support personnel and (3) athletes.

### Purpose of the Research

The purpose is to explore the current anti-doping initiatives in Aruba through stakeholder perspectives on the effectiveness of these initiatives. This research is being conducted in the context of international efforts to promote clean and ethical sport, as reflected in frameworks such as the UNESCO International Convention against Doping in Sport. This Convention seeks to protect public health and uphold the integrity, fairness, and core values of sport through harmonized anti-doping policies.

### Participant Rights

Please take the time to consider your participation. You are welcome to discuss the research with anyone you feel comfortable with before making your decision. You are free to discontinue your participation at any time during the interview, and you have the right to decline to answer any questions. If you agree, I would like to record the interview to assist in the analysis process. Rest assured, I will maintain confidentiality and anonymity regarding both your personal details and the information shared during the interview, meaning you will be anonymous in the thesis as well. For your reassurance, all of the information mentioned here is also included in the consent form you just signed.

### Why you Should Participate

SEMI-STRUCTURED INTERVIEW GUIDE

This knowledge may help me offer targeted recommendations to anti-doping organizations based on your perceptions to enhance anti-doping initiatives in Aruba. This will ultimately contribute to the development of clean sport and the sports culture in Aruba.

## QUESTIONS

**Category 1: Interview questions for athletes.**

**An Athlete** – Any person who competes in sport at the international level (as defined by each International Federation) or the national level.

Demographic information:

- What is your age?
- What is your gender?
- What is your occupation?
- What sport(s) do you currently compete in?
- At what competitive level do you currently participate? (e.g., amateur, national, elite)
- Have you ever been part of a registered testing pool (RTP) or tested for doping?

**SQ1. What are the current anti-doping education, research, compliance, and monitoring initiatives implemented in Aruba?**

**SQ2. How do athletes, sports organizations, and support personnel perceive the effectiveness of Aruba's anti-doping education, research, and compliance initiatives?**

**SQ3. What institutional or systemic challenges affect the implementation of anti-doping education, research, compliance, and monitoring in Aruba?**

**SQ4. What strategies can be recommended to improve education, research, and compliance?**

***Education***

1. What is your role as an athlete?
    a. What specific athlete responsibilities are you most aware of?

SEMI-STRUCTURED INTERVIEW GUIDE

   b. How did you learn about these responsibilities?

2. Can you describe any anti-doping education sessions or materials you've received during your athletic career? (E.g., booklets, workshops, online documents, etc.)
   a. Has anything changed after the information/guidance you received?
   b. How informative were these education sessions in helping you make informed decisions on substance consumption?
3. According to you, what types of anti-doping education (e.g, educational resources, workshops, etc.) are generally available?
   a. How did you find out about these workshops?

**SQ2**

4. In what ways could doping in sports be an issue?
   a. In what ways could doping in sports be positive?
   b. What values would you associate clean sports with?
5. What do you think of the current level of awareness on anti-doping and online learning platforms among athletes?
6. How is anti-doping education in Aruba relevant and helpful to athletes like yourself?
   a. How informed do you feel about your rights and obligations regarding ADAMS and TUEs?

**SQ3**

7. What difficulties or gaps do you see in anti-doping education or access to information?
   a. What do you think is a barrier that is keeping anti-doping education from reaching athletes who are in the testing pool?
   b. Can you tell me about any anti-doping rules you've come across that you feel make sense or don't make sense in practice?

**SQ4**

8. What suggestions do you have for improving anti-doping education?
   a. What educational platforms would work best for you as an athlete?

9. What suggestions do you have for improving testing procedures?
    a. What type of support should be introduced to athletes in regards to the testing processes?

***Research***

**SQ1**

10. What types of anti-doping research have you encountered during your sport career? (If applicable)
    a. Have you been part of any research project (e.g, interviews, surveys, focus groups, etc)
    b. Can you describe this research project?

**SQ2**

11. To what extent do you see a need for research on anti-doping in Aruba?
    a. What key takeaways did you have from this research?
12. In what ways do you think athlete perspectives could be important for research?
13. How involved do you think athletes are in anti-doping research?

**SQ3**

14. What do you believe is hindering anti-doping research in Aruba?

**SQ4**

15. How, in your opinion, can anti-doping research be improved in Aruba?

***Compliance***

***SQ1***

16. What anti-doping rules are you most familiar with?
    a. How familiar are you with how these rules are monitored in Aruba?
    b. What happens if an anti-doping rule violation occurs?
    c. What are the consequences of these violations, according to you?
17. *****Are you familiar with Therapeutic Use Exemption, testing protocols, and the ADAMS system? Please explain.

**SQ2**

SEMI-STRUCTURED INTERVIEW GUIDE

18. How do anti-doping rules influence your attitude or behavior as an athlete?
    a. Have these rules affected your daily life, and in what ways have they affected you?
19. In your opinion, how effective are the current anti-doping rules in preventing doping in sports?
    a. To what extent do you think the current anti-doping rules promote accountability?
    b. Do you believe they are fairly applied across all athletes and sports?
20. How would you describe your confidence in how consistently anti-doping rules are monitored and enforced by sports authorities in Aruba?
    a. What contributes to your level of confidence (or the lack of it)?
21. Can you share your experiences or thoughts about how testing, sanctions, or the ADAMS system work in practice?
    a. Can you describe the level of clarity of the testing and sanctioning procedures?

**SQ3**

22. How would you describe your experience complying with testing or administrative procedures?
    a. Do you experience challenges when complying with testing or administrative procedures? If so, please explain.
    b. In what ways have these challenges affected your ability to comply with anti-doping rules?
23. In what ways could these procedures/measures hinder you from exercising your role as an athlete?
24. Have you ever experienced, or know anybody who has experienced, confusion with the anti-doping rules or testing procedures?
    a. How would you describe that experience?

SEMI-STRUCTURED INTERVIEW GUIDE

b. How was this confusion/misalignment resolved?

**SQ4**

25. What kind of resources or support would help you better understand and follow anti-doping rules?
    a. Would more training, coaching, or access to digital platforms help?
    b. What kind of support do you expect from your federation or coach?
26. Do you have any remarks or questions?
27. **(After)** → How did you find the interview? was there any way i could have done it better?

SEMI-STRUCTURED INTERVIEW GUIDE

**Category 2: Interview questions for athlete support personnel (ASPs).**

**Athlete support personnel** – coaches, physicians and other medical staff, parents, along with anyone else who helps or treats athletes in their competitive life.

Demographic information:

- What is your gender?
- How old are you?
- What organization do you work for, and what is your position?
- How long have you been working in your position?
- At what competitive level do you support athletes?

**SQ1. What are the current anti-doping education, research, compliance, and monitoring initiatives implemented in Aruba?**

**SQ2. How do athletes, sports organizations, and support personnel perceive the effectiveness of Aruba's anti-doping education, research, and compliance initiatives?**

**SQ3. What institutional or systemic challenges affect the implementation of anti-doping education, research, compliance, and monitoring in Aruba?**

**SQ4. What strategies can be recommended to improve education, research, and compliance?**

**SQ1**

***Education***

1. What is your role as an Athlete Support Person?
    a. Are you formally designated/recognized as an ASP?
2. What kind of anti-doping education have you received as a coach/trainer/ASP?
    a. How is information about compliance procedures communicated to you as ASP?
    b. Who provided the training and how frequently?
3. What types of anti-doping education or training have you given?

SEMI-STRUCTURED INTERVIEW GUIDE

   a. What topics did you cover in the sessions you delivered?

**SQ2**

4. How relevant/necessary do you find anti-doping initiatives?
   a. To what extent do you think these initiatives reflect ASPs needs, and why?
   b. Can you tell me about any rules or responsibilities you have as ASP that you are against implementing?
5. In what ways could doping in sports be an issue?
   a. In what ways could doping in sports be positive?
   b. What values would you associate clean sports with?
6. How is anti-doping education in Aruba relevant and helpful to ASPs like yourself?
   a. How is anti-doping education in Aruba relevant and helpful to athletes?
7. In what ways do the current education programs actually influence athletes' choices or behaviors?
   a. Can you give examples where education clearly had an effect?

**SQ3**

8. Are there any gaps in procedures, tools, or information that limit your ability to enact your role as ASP?
9. What barriers do you believe prevent effective delivery or adoption of anti-doping education among athletes and ASPs?
   a. Are there any language or possible misinterpretations of anti-doping rules? Can you describe them?

**SQ4**

10. What tools, training, or policies would help you as ASP support clean sports more effectively?
    a. Would mobile apps, more workshops, or mentoring help you?
11. How can education programs be improved for ASPs and athletes?

***Research***

SEMI-STRUCTURED INTERVIEW GUIDE

**SQ1**

12. Can you tell me about any ongoing research or data collection efforts related to anti-doping?
    a. Have you been part of any research project (e.g, interviews, surveys, focus groups, etc). If so, please describe this research project?

**SQ2**

13. Do you believe there is a need for anti-doping research in Aruba?
    a. In what way do you think anti-doping research can better inform and support ASPs?
14. How important do you think athletes' and ASPs' perspectives are for research?
    a. How involved do you think ASPs are in anti-doping research efforts?
15. How effective do you think anti-doping research efforts are in understanding athlete behavior and improving anti-doping education and policies?

**SQ3**

28. What do you believe is hindering anti-doping research in Aruba?

**SQ4**

16. How in your opinion, can anti-doping research be improved in Aruba?
    a. In what way should ASPs be more involved when it comes to research?

***Compliance***

**SQ1**

17. What anti-doping rules do you have to comply with as an ASP?
    a. How familiar are you with how anti-doping rules are monitored in Aruba?
    b. How familiar are you with anti-doping rule violations and their consequences?
18. How do you, as ASP, manage compliance tasks (e.g., TUEs, whereabouts) to stay compliant with anti-doping rules? (Guideline or education-based?)
    a. How supported do you feel in terms of anti-doping compliance?

**SQ2**

SEMI-STRUCTURED INTERVIEW GUIDE

19. Do you agree with your roles and responsibilities as an ASP in terms of anti-doping?
20. How are your experiences with anti-doping compliance requirements as an ASP?
21. To what extent do you believe that the current compliance requirements prevent doping effectively?
    a. To what extent do you believe that the current compliance requirements promote accountability?
22. How effective do you think Aruba's compliance efforts are in helping ASPs exercise their roles?
    a. Are there sufficient resources provided to ASPs?
    b. Do you feel equipped to address athlete questions or issues?

**SQ3**

23. What are the common challenges ASPs face in upholding clean sport/anti-doping practices?
24. Have you experienced any confusion or difficulty following anti-doping rules for ASPs? Please elaborate.
    a. How was that addressed?

**SQ4**

25. How in your opinion, can anti-doping compliance be improved in Aruba?
26. Do you have any remarks or questions?

SEMI-STRUCTURED INTERVIEW GUIDE

**Category 3: Interview questions for representatives of sports organizations.**

**Sport organizations** – Any official bodies or institutions responsible for the organization, governance, or promotion of sports.

Demographic information:

- What is your age?
- What is your gender?
- What sport(s) are you currently involved in? (Optional)
- Which relevant organizations do you work for that are involved in sports?
- How many years have you been working in this position?

**SQ1. What are the current anti-doping education, research, compliance, and monitoring initiatives implemented in Aruba?**

**SQ2. How do athletes, sports organizations, and support personnel perceive the effectiveness of Aruba's anti-doping education, research, and compliance initiatives?**

**SQ3. What institutional or systemic challenges affect the implementation of anti-doping education, research, compliance, and monitoring in Aruba?**

**SQ4. What strategies can be recommended to improve education, research, and compliance?**

***Education***

**SQ1**

1. What anti-doping educational initiatives has your organization implemented or supported?
    a. Can you describe your organization's current strategies related to anti-doping education?
2. Who is responsible for providing educational sessions/workshops?

SEMI-STRUCTURED INTERVIEW GUIDE

3. How are different target groups (athletes at different levels and other stakeholders) reached? Is there a specific procedure?

**SQ2**

4. How do you perceive the overall effectiveness of Aruba's anti-doping approach in terms of education?
5. How do you perceive the overall effectiveness of Aruba's anti-doping education in terms of raising awareness and instilling clean sport values?

**SQ3**

6. What challenges does your organization face when implementing or enforcing anti-doping education measures?
7. Do you believe there are misunderstandings/confusion among athletes and ASPs when it comes to anti-doping rules?
    a. How are these misunderstandings typically addressed?
    b. Are there recurring misconceptions/misunderstandings you've observed?

**SQ4**

8. What improvements would you recommend for national anti-doping policies or organizational coordination in regard to education?
9. How could Aruba better use data, partnerships, or technology to strengthen anti-doping efforts?
    a. What (digital) tools or platforms could improve education or compliance?

***Research***

**SQ1**

10. What research is currently being done on anti-doping in Aruba?
    a. Is there support for new studies or athlete feedback collection?
    b. Is your organization involved in international or regional studies?
    c. Do you collaborate with academic or international institutions for research?

**SQ2**

SEMI-STRUCTURED INTERVIEW GUIDE

11. How do you perceive the overall effectiveness of Aruba's anti-doping approach in terms of research?
12. In what ways can anti-doping research benefit Aruba?
    a. In what ways can partnerships/collaborations for research contribute to clean sports in Aruba?
13. How effective do you think anti-doping research in Aruba is in improving education and policy on clean sport?

**SQ3**

14. What challenges does your organization face when implementing or enforcing anti-doping research initiatives?

**SQ4**

15. What improvements would you recommend for national anti-doping policies or organizational coordination in regards to research?
    a. (Optional) What kind of data would you want to see collected?

***Compliance***

**SQ1**

16. Can you explain how anti-doping compliance and monitoring are organized in your organization?
    a. How does your organization ensure alignment with WADA's International Standards?
    b. Who is responsible for overseeing compliance tasks?
17. How does your organization collaborate with international organizations like WADA or RADO?
18. What indicators or tools does your organization use to assess the effectiveness of its anti-doping initiatives?

**SQ2**

19. How do you perceive the overall effectiveness of Aruba's anti-doping compliance measures in preventing doping?

SEMI-STRUCTURED INTERVIEW GUIDE

a. Can you tell me about effectiveness of these measures in promoting accountability?
b. What is your opinion on Aruba's anti-doping system in protecting athletes' rights?

20. What characteristics of Aruba dou feel that characteristics of Aruba influence how anti-doping initiatives are implemented? (such as its size, resources, or sporting context)
21. What do you believe is effective when it comes to the monitoring procedures and sanction processes in Aruba?

**SQ3**

22. What challenges does your organization face when implementing or enforcing anti-doping compliance measures?
23. To what extent are there limitations in expertise that hinder anti-doping initiatives?
    a. Are there challenges in terms of collaboration between stakeholders?
24. What gaps or challenges do you identify in terms of anti-doping support at the federation level?

**SQ4**

25. What improvements would you recommend for national anti-doping policies or organizational coordination in regard to compliance?
    a. What improvements would you recommend in terms of federation/athlete monitoring?
26. Do you have any remarks or questions?

CLOSING

I would like to sincerely thank you for your participation and your valuable insights. I will now analyze the data to assist me in answering my research questions. Should you have any additional questions or require further clarification about the research that is being conducted, please do not hesitate to reach out to me via email at 177318@student.ua.aw (Joey Francisco) or contact me via telephone at 560-8889.

# Appendix B: Consent Form

**Faculty of Arts and Science**

**Thesis**

**Research Consent Form**

**Part I: Research Information**

**Introduction**

My name is Joey Francisco, and I am a 4th-year student of the University of Aruba from the program Organization, Governance, and Management. I would like to invite you to participate in my research regarding the effectiveness of Aruba's anti-doping initiatives in the areas of education, research, and compliance concerning athletes, athlete support personnel, and sports organizations.

**Purpose of the Research**

The purpose of this research is to better understand how anti-doping initiatives work in Aruba by focusing on the role of sports organizations, athletes, and athlete support personnel in clean sports. The research also looks at whether there are any challenges, gaps, and areas for improvement in the scope of anti-doping. The aim is also to explore how athletes, athlete support personnel, and institutions see anti-doping education, research, and compliance, with a focus on topics such as awareness, challenges, impact, and improvements.

**Why you should participate**

Your perspective will help identify ways to improve anti-doping initiatives in Aruba for athletes, support personnel, and sports organizations. This contributes to the broader development of sport in Aruba by protecting athletes' rights to clean and fair competition. Your input is valuable for evaluating how effective current anti-doping efforts are and for shaping future improvements

**The participant (You)**

You have been selected to be part of my research, which includes a semi-structured interview because your position/connection/circumstances aligns with this research's field of interest and can contribute to my understanding and knowledge of the topic of Aruba's anti-doping initiatives and their impact on athletes, athlete support personnel, sports organization, and the sports landscape in Aruba as a whole. If you agree to take part in this interview, you will be asked to

share your thoughts and experiences related to anti-doping efforts in Aruba. You are encouraged to speak openly and honestly based on your knowledge and role in sports, which means there are no right or wrong answers.

**Voluntary Participation**

You may choose to participate or not in this research; therefore, your participation is voluntary. This means that whatever choice you make, your decision will be honored and respected. This also means that you can skip any question or stop the interview at any time without any consequences

**Confidentiality**

As a researcher, I will maintain confidentiality regarding information about the participant (you) and the information that the participant shares. Any confidential information and/or documents given to the researcher will be discarded immediately after it has fulfilled their purpose in the research.

**Sharing the results**

Your identity will not be linked to the information you provide. The information you share will be kept confidential and anonymous. The insights gained from this research will be shared with our instructors and, with your permission, may also be shared with relevant institutions to contribute to a broader understanding of this subject.

**Right to refuse or withdraw**

You have the freedom to discontinue your involvement in the discussion/interview and/or refuse to answer a question at any time without any repercussions. Additionally, if you share information that you later decide should not be included in our findings, you can request its removal, and I will willingly comply.

**Questions you may have**

If you have questions, you can ask me anytime during or after the interview.

**Part II: Certificate of consent**

Statement by the participant

- ☐ I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it, and any questions I have asked have been answered to my satisfaction. I consent voluntarily to be a participant in this study.
- ☐ I agree to being recorded solely for the purpose of this research.

Name of Participant_____

Signature of Participant _____

Date _____ Day/month/year

Statement by the researcher/person taking consent

- ☐ I have accurately read out the information sheet to the potential participant, and to the best of my ability, made sure that the participant understands the nature of this research, the use of data, the confidentiality measures, and the availability of the results. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Name of Researcher/person taking the consent_____

Signature of Researcher /person taking the consent_____

Date _____ Day/month/year